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Command and Control of Joint Air Operations

Some Lessons Learned from
Four Case Studies of an Enduring Issue

James A. Winnefeld, Dana J. Johnson

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PREFACE

This report is a first step in documenting one author's decades-long interest in how the air forces of the different U.S. military services achieve unity of effort by blending their considerable and largely unique talents in mounting joint air operations.¹ This interest was kindled by a curiosity about how the various air forces worked together during the Battle of Midway almost half a century ago. The United States won at Midway despite lacking experience, doctrine, or equipment suited to joint air operations. The focusing question addressed here is, What can be learned from this and subsequent experiences?

While the authors were conducting the research for this analysis, C. Kenneth Allard's excellent study was published.² That work examines the roots of service differences in history and brings them up to the present in discussing the problems in joint service acquisition, planning and operations. Broader in nature and scope, Allard's study examines all services and their roles, the longer perspective of history back to the founding of the United States, important recent system acquisition issues and examples, and current associated problems at the national level.

This study has a narrower purpose and scope: *to examine how joint air operations (primarily tactical) contributed to achieving the principle of unity of effort.*³ It uses a theater level focus and an analysis limited to one battle and three campaigns during the period 1942–1968. Much of the detail presented here buttresses his conclusions.

This research utilized primarily the official campaign histories of the different services and the memoirs of many of the participants as well as many unofficial sources such as papers and studies published by the Air University. Few authors other than Allard had looked across wars and campaigns to examine air command and control and doctrinal issues. The exceptions were General William W. Momyer (a former Commander Seventh Air Force in Vietnam), Dr. Richard P. Hallion, and Colonel Thomas A. Cardwell III, USAF. General Momyer, who served in Africa and Europe during World War II, has strong views on the need for unity of command for all types of air operations. But before his experience in Vietnam, most of his first-hand knowledge concerned the need for unity of command in *combined* operations, not *joint* operations, which are the focus of this report. Because it was outside his personal experience Momyer scarcely refers to the legacy of joint experience in the Pacific during World War II.⁴

Richard P. Hallion, a historian of air operations, has written about naval aviation in the Korean war and about close air support doctrine in four wars. His *Strike from the Sky* encompasses the contribution of aviation to land warfare in World Wars I and II and the intervening years.⁵ Colonel Thomas A. Cardwell, III, USAF, has observed the effect of service doctrine on the individual services' approaches to joint command structures and control of theater assets in World War II, Korea, and Vietnam.

¹James A. Winnefeld is a retired naval officer with 25 years of experience in air operations, much of it in joint air operations.

²C. Kenneth Allard, *Command, Control, and the Common Defense*, Yale University Press, New Haven, 1990. The authors strongly recommend Allard's work for the serious student of joint operations.

³We are grateful to CAPT Steven U. Ramsdell of the Office of the Chief of Naval Operations, Department of the Navy, for refocusing our attention on the important distinctions between unity of effort and unity of command.

⁴William W. Momyer, *Air Power in Three Wars*, Office of Air Force History, 1978.

⁵Richard P. Hallion, *Strike from the Sky, The History of Battlefield Air Attack 1911–1945*, Smithsonian Institution Press, Washington, D.C., 1989.

Some readers will note that this report neglects air operations during World War II in Africa, Europe, and the battle for the Atlantic, as well as the USAF's dominant role in achieving air superiority in Korea—a prerequisite for joint air operations. These omissions are intentional, as those operations did not include any substantial *joint* air operations.⁶ Furthermore, some will observe that not until Vietnam is the Army's role in the ground campaign discussed at the depth it rightly deserves.⁷ Still other readers will be disappointed that the research documented in this report ends with the period of the Tet Offensive of 1968, before the use of B-52 bombers in the *Linebacker* campaigns. In the authors' judgment most of the tactical air command and control issues had been addressed, if not entirely resolved, by early 1968.

There have been several instances of joint air operations since 1968—e.g., the U.S. air strikes into Libya (*El Dorado Canyon*, 1986) and Panama (*Just Cause*, 1989). It is too soon, of course, to discuss *Desert Shield* and *Desert Storm*. Although much has been done since Vietnam to improve joint air operations, critical analysis remains for a future study.

The topic of joint air operations has been steeped in strongly held, often diametrically opposed, views. The authors have encountered few observers of or participants in the campaigns studied who hesitated to place blame on sister services for perceived shortcomings. Unfortunately, the official histories of each service are not exempt from this blame-placing. Clear objectivity is difficult to come by. The authors intend to stimulate discussion of an important topic, one that is relevant in view of trends in decreasing force postures, stringent budgets, and shifting threats to U.S. national interests. To compensate for potential biases, officers and historians of the services reviewed an earlier version of this study.

This project was supported by RAND, using its own funds. The report should be of interest to DoD and service planners concerned with developing joint command and control, operational concepts, and training exercises for joint air operations in the 1990s and beyond.

⁶There was a joint air antisubmarine warfare (ASW) effort in the Atlantic in World War II, but time did not permit an examination of it.

⁷Even in Sec. VI, however, discussion of the Army's role is limited to the interface between fixed wing and helicopter operations.

SUMMARY

This report examines the achievement of the principle of unity of effort from a narrow focus of the command and control of U.S. joint tactical air operations in four campaigns during the period from 1942 to 1968. Its intent is to extract from that examination some lessons for future joint air operations. Although some may question the relevance of lessons learned from operations that ended more than two decades ago, the lessons of the four major campaigns examined here offer useful insights for current and future commanders.

Unity of effort is the objective of any command and control system. It has often been defined synonymously with *unity of command*. This definitional issue has manifested itself in the expressions of individual service doctrines, their implementation in joint operations, and, ultimately, each of the services' views of war. In our view, *unity of command* is one of several necessary steps to achieve unity of effort. Unity of effort is defined as an overarching principle that encompasses "solidarity of purpose, effort, and command. It directs all energies, assets, and activities, physical and mental, toward desired ends."¹

Many of the difficulties in achieving unity of effort and with the concept as a whole have risen in the debates over appropriate common strategic objectives among both political authorities and the services. This report emphasizes theater-level employment of joint air forces and thus implicitly assumes general agreement on common strategic objectives. Therefore, the question becomes how best to achieve unity of effort through unity of command, and not determining what the common objectives should be for the effort.

A more difficult set of questions encompasses how forces are or should be employed when there is no unity of purpose, as when individual services support different strategies. Controversy can be expected in the adjudication of strategic priorities, timing, and methods of accomplishment, which process represents the heart of doctrine.

The exploration of the nature of unity of effort looks for four elements:

1. *Unity of command* and, in the absence of such unity, the command arrangements that were utilized.
2. The quality of *joint attack* and *defense planning* in exploiting the special capabilities of each service.
3. The quality of *execution decisions* and *joint operations*: their timeliness, their utilization of available information, and their improvisation in the face of uncertainty and adversity.
4. The degree of *readiness* and *tactical compatibility* among the forces of the different services, as applied to equipment, training, and organization.

The emphasis of the report is how the Air Force, the Navy, and the Marine Corps organize, command, plan, control, and execute the air aspects of a campaign in pursuit of a common strategic objective when the tactical air forces of more than one service are involved. The four campaigns of interest are Midway in 1942, the Solomons in 1942–1943, Korea in 1950–1953, and Vietnam in 1965–1968. Each had different attributes. In the first two the control of the air was in doubt and a considerable portion of the total effort was on naval and air targets. The opponent had first class forces and employed them (for the most part) very

¹John M. Collins, *Grand Strategy: Principles and Practices*, Naval Institute Press, Annapolis, 1973, p. 28.

skillfully. The second two were characterized by an opponent with much less than first class air power and negligible naval power, but with major land forces.² Air power's principal function was the destruction of the opponent's ground forces and their support structure.

DOCTRINE AND EXPERIENCE: THE SOURCES OF DISHARMONY

Each of the air services³ had a unique experience in its evolution that, together with different service missions, has led to different doctrines, different interpretations of the unity of effort principle, and largely incompatible views on the unity of command and the conduct of joint operations. The Air Force perspective is derived from a belief in the capability of the airplane to project power anywhere in the world in a short period of time. This perspective suggests the importance of unity of command of all tactical air forces, and is expressed formally in Air Force Manual 1-1.⁴ The air commander should be a component commander reporting to the theater commander, not a ground or naval commander, or the commander of a lesser joint command. The Navy experience fostered a view that naval air forces, and other air forces operating in the maritime environment, should be retained under naval command. Naval forces may support another commander, but not be placed under his control or command.

The Marine Corps takes a different view. It also believes in unity of command but across ground-air lines. Its experience is that air and ground forces are combined arms and should not be under different commanders. A Marine without his own tactical air is a Marine without his full and necessary inventory of weapons. These disparate service views lie at the foundation of most of the difficulties and partial remedies discussed in this report. In seeking a basis for some larger consensus on unity of effort across these strongly held views, the authors pose a series of questions that may lead to useful answers:

1. What degree of unity of command is required to achieve unity of effort?
2. When is unity of command not essential to effective tactical air operations? When is there no need for a single air component commander to control all air assets?
3. When does Marine air not have to be under the command of a Marine Corps combined arms commander?
4. When is naval air not needed to protect one's own naval forces or prosecute a naval campaign? When can carrier battle groups be positioned principally to support an air or land campaign?
5. When can combined arms joint task forces be formed out of component supplied assets and made directly responsible to the theater commander and not component commanders?

²The war in Korea saw the Air Force conduct a critical air superiority campaign that, had superiority been lost and the Chinese Air Force been allowed to establish airbases in North Korea, could have made the position of the U.N. ground and naval forces indefensible.

³The term "air services" denotes the Air Force and the air elements of the Navy and the Marine Corps. Army aviation, primarily helicopters, is also included.

⁴"Unity of command is the principle of vesting appropriate authority and responsibility in a single commander to effect unity of effort in carrying out an assigned task. Unity of command provides for the effective exercise of leadership and power of decision over assigned forces for the purpose of achieving a common objective. Unity of command, combined with common doctrine, obtains unity of effort by the coordinated action of all forces toward a common goal. While coordination may be attained by cooperation, it is best achieved by giving a single commander full authority." Air Force Manual 1-1: *Basic Aerospace Doctrine*, 16 March 1984, p. 2-8.

6. When can air units of one service be placed under the control (or even command) of an officer of another service?

MIDWAY, 1942: PROLOGUE

The Battle of Midway was the first major joint air campaign conducted by the forces of the Navy, Marine Corps, and Air Force.⁵ The battle was won, but it was an inauspicious beginning for service efforts to integrate combat air operations. Midway was a triumph of strategic command and control: The forces got to the right place at the right time with the right orders. But it was a failure at the operational and tactical levels of joint air operations: coordinating the efforts of those forces once they arrived.

There were two major joint command and control issues at Midway: the coordination of the operations of the sea- and land-based air forces, and coordination among the various land-based air components. Two special circumstances shaped the Midway experience:

- An ambush of Japanese naval forces required radio silence by U.S. carrier forces.
- A pickup land-based air component was inadequately trained, had no combat experience, flew mostly substandard aircraft, and had never participated in joint air operations.

The result was two separate air campaigns, one sea based and one land based. The land-based air campaign encompassed four subcampaigns. Japanese indecision, American decisiveness, and luck combined to provide a basis for victory despite the shambles in tactical command and control. Midway's prime lesson was that major tactical air coordination problems had to be solved before one could face a strong and determined enemy with confidence. The principal dimension of those problems was the command and control of land-based air forces of different services.

THE SOLOMONS CAMPAIGN, 1942–1944: JOINT AIR OPERATIONS COME OF AGE

The Solomons campaign followed closely on the heels of Midway and demonstrated what joint tactical air forces can accomplish when led by selfless and dedicated leaders in the face of adversity. The air forces of all services blended their efforts in a multifaceted campaign of interdiction, antishipping, air defense, and direct support of friendly ground force missions. The hallmarks of the campaign were flexible command arrangements and the willingness to sacrifice service force employment doctrine to carry out the task at hand.

The campaign demonstrated that those closest to combat quickly overcome burdensome command arrangements when faced with the prospects of military disaster, and that command and control issues become more contentious the farther one gets from the fighting. But in many respects the Solomons campaign was atypical because one service, the Navy, in the lead from the start, was able to put its stamp on the way the campaign was commanded and controlled. However, the Navy quickly learned to accommodate and adjust to special service needs to get the job done. When the Air Force's turn came in Korea, it demonstrated the same sensitivity toward Marine forces operating in support.

⁵The term *Air Force* refers to the current Air Force and its predecessors, the Army Air Force and the Army Air Corps.

KOREA, 1950–1953: THE RENEWED CLASH OF SERVICE AIR COMMAND AND CONTROL DOCTRINES

A poisonous clash between the Navy and the Air Force over roles, missions, and hardware in the aftermath of World War II contributed to disputes over the command and control of tactical air forces in the Korean conflict. The Air Force attempted to gain operational control of all tactical air forces operating in and from Korea. Although the Air Force worked out a *modus vivendi* with the Marines, the Navy fought successfully to keep control of its air component. The compromise the theater commander used to integrate the operations of the different tactical air forces was built around the concept of “coordination control,” which gave the Air Force the lead in coordinating joint air efforts, but not command authority concerning requirements, tasking, and direction of operations.

As time wore on, this concept worked reasonably well. Both the Navy and the Air Force made concessions on their doctrines and got the job done. But the process was never easy, and parochialism and paranoia were among its principal characteristics. In Korea the route package concept of dividing North Korea into specific service-component zones helped alleviate command and control difficulties but created others.

An innovation in the Korean war was the establishment of a Joint Task Force (Xth Corps) with its own (mostly Marine) air component. This device further compartmented the control of theater air forces. The Air Force vigorously resisted it with only mixed success.

VIETNAM, 1965–1968: REGRESSION AND PROGRESS

The Vietnam war was frustrating in nearly every dimension. The command and control of tactical air operations emerged as an early issue and continued through the end of the period examined in this report. The issues were never satisfactorily resolved.

Issues occurred at two fundamental levels. First, the commander of the U.S. Military Assistance Command (COMUSMACV) did not have responsibility for operations in North Vietnam and Laos. That authority was retained by Commander U.S. Pacific Command (USCINCPAC).⁶ Second, COMUSMACV's air component commander (2d Air Division and then Seventh Air Force) had three problems:

- He did not control all tactical air assets based or operating in South Vietnam (Navy, Marine, and SAC air forces were not under his operational control).
- He did not have any real control of the massive Army and Marine helicopter operations that were characteristic of the campaign.
- He had responsibilities to his component commander, Commander in Chief Pacific Air Forces (CINCPACAF) and the theater commander (USCINCPAC), but not to COMUSMACV, for Air Force operations in most of North Vietnam and Laos.

The result was a continuing battle for authority to task and apportion effort among air forces, inefficient application of the totality of air assets, and often an unsatisfactory state of control of air assets in the battle area. Compromises and workarounds got the most important jobs done. But most centered on using such Korean war concepts as coordination control (called “mission direction” in some cases) and route packages to minimize mutual interference and retain each service's control over its own air forces. As in Korea, the Air Force came to the theater doctrinally prepared to take charge, but least prepared in training and hardware for an enemy that was not deterred by U.S. nuclear weapons.

⁶Please refer to the Glossary for abbreviations.

LESSONS LEARNED, RELEARNED, AND UNLEARNED

Unity of Command: Lessons Learned

Unity of command tended to be fractured across four lines:

- Across echelons of command (meddling by CINCs in skipping levels of command).
 - Between land- and sea-based air.
 - Among land-based air forces of all services and elements within the services.
 - By geographically separated operations under separate commands in the same theater.
1. Lessons learned across echelons of command.
 - a. The CINC (and his staff) should stay out of the details of air operational planning and execution once combat operations have started.
 - b. The CINC should establish close personal rapport with all his component (including air) commanders early in the planning phase.
 - c. The CINC should be mindful of service and joint doctrine but not be bound by it when it does not fully support mission accomplishment. This conflicts with 1.a. above; it is the CINC's job to strike the proper balance.
 2. Lessons learned about the coordination of land- and sea-based operations.
 - a. Occasionally, the survivability of carrier forces is an issue, or they have multiple missions outside the context of an air campaign. In those cases carrier forces should not be subordinated to the air component commander.
 - b. Conversely, when conflicting missions and other special considerations do *not* apply, one component commander can be given control of another component's forces *under carefully specified conditions*.
 - c. Several modes of operation need to be defined, each mode based on a number of explicit, tightly drawn stipulations. It would be up to the CINC, after consultation with his component commanders, to designate what stipulations were met and thus what mode of control would be employed.
 - d. The mode that has worked best to date, as confirmed by the experience of the Korean and Vietnam wars, is for one component commander to act as the lead commander and be given "coordination control" authority. This commander must have senior representatives of the coordinated component forces on duty at his air operations center.
 3. Lessons learned about integration of land-based air forces of different services.
 - a. When forces from different components operate in the same airspace at the same time, a single commander must exercise airspace and target authority. This commander is normally the air component commander.
 - b. The single air commander may find it prudent to set up regionally oriented subordinate commanders to work directly with the various supported ground commanders.
 - c. A major difficulty is posed when the single air commander elects or is required to establish both regional and functional subordinate air commanders who must interact with one another as well as the ground commanders they support.

4. Lessons learned about setting up geographically separate operations under separate commands in the same theater.
 - a. The in-theater subordinate command concept (e.g., Joint Task Forces) has been employed in the past, and it has worked when skillfully employed.
 - b. CINCs and air component commanders must learn to live with the interfaces posed by the joint task force (JTF) concept and develop air concepts of operations compatible with it.

Joint Planning: Lessons Learned

The lessons learned in joint planning will be dealt with under three headings: doctrine, joint force employment planning, and exercises.

1. Lessons learned about the application of doctrine.
 - a. A joint tactical air doctrine is needed that provides guidelines for decisions on command arrangement and coordination issues.
 - b. The difficulties of crafting such a doctrinal document in peacetime are exceedingly difficult, if not almost insurmountable.⁷ Consequently, the commander who might be involved in such a contingency operation must think about what arrangements he wants *and can get* in advance so that he can quickly make the relevant decisions at the onset of operations.
 - c. Suitably packaged and disseminated historical studies, perhaps developed by the war colleges, may be of more practical utility than carefully crafted doctrinal compromises.
2. Lessons learned about joint force employment planning.
 - a. Time sharing a target set among service air forces is unsatisfactory except in the rarest instances.
 - b. Apportioning a target set to service component air forces by geographic bounds provides simplicity of control at the expense of effective use of all available air power. It is the luxury of a nation with plentiful air force assets.
 - c. But geographical allocation of targets may be the only feasible allocation of targets if peacetime training, exercises, and doctrinal development do not foster a true integrated joint air capability.
 - d. The differences in doctrine, hardware, and training emphasis in peacetime are real and in most cases necessary. The trick is to both exploit and work around those differences by imaginative employment concepts that are not unduly inhibited by service doctrine.
3. Lessons learned that apply to peacetime exercises.
 - a. Interoperability demonstrations are not the same as joint operations.
 - b. Many so-called joint exercises are really single service exercises with other services in a supporting role.
 - c. Service components, not the CINCs or other joint echelons, dominate joint exercise planning and operations.

⁷The renewed emphasis on doctrinal development by the Joint Chiefs of Staff (JCS) and unified and specified commands mandated by the Goldwater-Nichols Act may change this.

- d. So-called joint exercises have done little to prepare the services for the real joint operational problems encountered in combat.

Joint Operations and Execution Decisions: Lessons Learned

1. Decisions involving the use of joint forces are always more complex than those involving a single service. The joint commander's objective should be to minimize the complexity and avoid optimizing the contribution of one service at the expense of joint force optimization.
2. Communications are the Achilles' heel of any joint operation, but particularly a joint air operation. No joint commander should ever be satisfied with his communications plan or the training of his forces in using it.
3. Service doctrine often does not fit operational circumstances and can be a distraction in reaching sound operational decisions. Although doctrine is not prescriptive, it is often used as if it were. Doctrine can be used to measure decisions as well as a stimulus for them.
4. Generally, theater commanders (or even component commanders) should not make operational decisions on the employment of tactical air forces. Rules of engagement and other politically sensitive matters will necessarily be the theater commander's concern.
5. In any joint operation, some sort of joint air operations center should be staffed with the representatives of all involved services, including members of supported ground services.
6. Efficiency of tactical air force application is often sacrificed for expediency, particularly when U.S. ground forces are threatened. The prudent commander thinks ahead to how he will decide matters in off-design scenarios.

Training and Hardware: Lessons Learned

1. Cross-mission training of tactical air forces should be encouraged, not only for its possible combat payoff, but also for the flexibility of mind that it encourages among air crews, staffs, and commanders.
2. Missions that require the support of commanders of other services tend to get short shrift in hardware modernization and training time. The only commands with a vested interest in correcting this situation are the CINCs.
3. Creating effective joint operational staffs may be more difficult than creating effective joint forces. It is a low cost (in dollar terms) option for preparing in peacetime for the certainty of wartime joint operations.

ACKNOWLEDGMENTS

Our debt to all reviewers is so strong that to leave any out would be a disservice to them and to other scholars of the subject who might seek advice and information. Accordingly, we have included all, but we quickly add that they are not responsible for any errors of fact or judgment although they made a major contribution to whatever strengths the report has. The reviewers are listed alphabetically with their affiliations.

LTC C. Kenneth Allard, USA (Office of Deputy Secretary of Defense, Acquisition)
Carl Builder (RAND)
Major General John P. Condon, USMC ret.
Richard P. Hallion (Office of the Secretary of the Air Force)
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Edward C. Keefer (Diplomatic Historian, Department of State)
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GLOSSARY

ADVON	Advanced echelon (usually applies to a headquarters staff).
AFFE	Army Forces Far East.
"Arc Light"	B-52 missions in South Vietnam.
1st MAW	1st Marine Aircraft Wing.
I Corps	The northernmost of the South Vietnamese designated Army Corps areas. During most of the period of the Vietnamese conflict covered in this report, U.S. Marine forces were the principal U.S. forces in the I Corps area.
III MAF	III Marine Amphibious Force.
BAI	Battlefield air interdiction. Air operations conducted to destroy, neutralize, or delay the enemy's military potential before it can be brought to bear effectively against friendly forces, at such distance from friendly forces that detailed integration of each air mission with the fire and movement of friendly forces is not required. (JCS Pub. 1.)
"Barrel Roll"	Air operations in northern Laos.
CAS	Close air support. Air action against hostile targets that are in close proximity to friendly forces and that require detailed integration of each air mission with the fire and movement of those forces. (JCS Pub. 1.)
CINC	Commander in Chief.
CINCFE	Commander in Chief, Far East.
CINCPAC	Commander in Chief, Pacific.
CJTFME	Commander Joint Task Force Middle East.
COMAIRCATUS	An informal designation given to the Commander of the 1st MAW (or his deputy in charge on Guadalcanal) in his capacity as the senior aviator in command on Guadalcanal. The successor command was Commander Air Forces Solomons (COMAIRSOLS) (February 1943).
COMAIRNORSOLS	Commander Air Northern Solomons.
COMAIRSOLS	The senior aviator in command of air units in the Solomons (1943-1945).
COMAIRSOPAC	Commander Air Forces Southern Pacific.
Combined	Between two or more forces or agencies of two or more allies. (JCS Pub. 1.)
COMSOPAC	Commander South Pacific Force, Pacific Fleet. In spite of its name this command was in practice both a joint and combined command with forces of all the U.S. armed services as well as selected New Zealand and Australian forces.

COMUSMACV	Commander U.S. Military Assistance Command Vietnam.
Coordination control	A term used by CINCFE and his component commanders during the Korean war to delegate the authority to require coordination in the assignment of tasks and resources, but not the authority to assign tasks or direct compliance with directives objected to by one component.
DASC	Direct Air Support Center.
Doctrine	Fundamental principles by which the military forces guide their actions in support of objectives. It is authoritative but requires judgment in application. (JCS Pub. 1.)
ECM	Electronic countermeasures.
FAC	Forward Air Controller.
FAC(A)	Forward Air Controller (Airborne).
FEAF	Far East Air Forces.
"Flaming Dart"	Air operations in North Vietnam (February 1965).
FMFPAC	Fleet Marine Force, Pacific.
"Frag"	To issue a fragmentary order to cover the details of a day's air operations.
ICTZ	I Corps Tactical Zone.
JAPLOGCOM	Logistics Command, Japan.
JCS	Joint Chiefs of Staff.
JOC	Joint Operational Center.
JTF	Joint Task Force.
Joint	Connotes activities, operations, organizations, etc. in which elements of more than one service of the same nation participate. (JCS Pub. 1.)
"Linebacker"	B-52 operations in North Vietnam (1972).
LOCs	Lines of Communication.
MACS	Marine Air Control Squadron.
MAF	Marine Amphibious Force.
MATCU	Marine Air Traffic Control Unit.
MEB	Marine Expeditionary Brigade.
MEF	Marine Expeditionary Force.
Mission direction	A euphemism for operational control. Used in Vietnam starting in 1968 to indicate the air tasking authority of Seventh Air Force over the air assets of other components (particularly Marines).
NAS	Naval Air Station.
NavFE	Naval Forces Far East.

Operational command	Those functions of command involving the composition of subordinate forces, the assignment of tasks, the designation of objectives, and the authoritative direction necessary to accomplish the mission. In DoD the term is synonymous with operational control and is uniquely applied to the operational control exercised by the commanders of unified and specified commands over assigned forces. (JCS Pub. 1.)
Operational control	Authority to direct forces assigned.
PACAF	Pacific air forces.
PRC	People's Republic of China.
ROE	Rules of engagement.
"Rolling Thunder"	Air operations in North Vietnam (1965–1968).
SAC	Strategic Air Command.
SCAP	Supreme Commander Allied Powers.
"Steel Tiger"	Air operations in southern Laos.
TAC(A)	Tactical Air Coordinator (Airborne).
TACC	Tactical Air Control Center
Tactical air operation	An air operation involving the employment of air power in coordination with ground or naval forces to: a. gain and maintain air superiority; b. prevent movement of enemy forces into and within the objective area and to seek out and destroy those forces and their supporting installations; c. join with ground or naval forces in operations within the objective area, in order to assist directly in attainment of their immediate objective. (JCS Pub. 1.)
TADC	Tactical Air Direction Center.
TASS	Tactical Air Support Squadron.
TDCC	Tactical Data Communications Central.
TF	Task Force.
"Tiger Hound"	Air operations in southern Laos.
USMACV	U.S. Military Assistance Command, Vietnam.

I. INTRODUCTION

The downside to this common heritage of service authority is that it is largely an internal mechanism and so, in a sense, stops at the water's edge. Precisely because service command structures exert first claim on the loyalty of their members, command relationships *between* the services have been a persistent problem.¹

As the late spring dusk settled in over the central Pacific during the early evening of June 4, 1942, it was apparent to both U.S. and Japanese naval commanders that the United States had won a decisive victory. A pickup team of U.S. air forces had totally annihilated their previously undefeated opponents. Four Japanese carriers were on their way to the bottom of the Pacific, and the ocean's surface was littered with the wreckage of four Japanese naval air wings that had no other place to land. Neither before nor since has the destruction of an air opponent been so rapid and complete.

Although U.S. Navy bombs were directly responsible for this result, there was ample glory for the aviators of all services—Navy, Marine, and Air Force.² How was such a remarkable victory achieved in the absence of a high degree of unity of effort and of any experience in, or doctrine for, joint tactical air operations? The answer is simply that it was achieved in spite of that lack of coordinated effort, experience, and doctrine. Good intelligence, the resoluteness of U.S. commanders, the pluck—and luck—of U.S. aviators determined the result. Although a glorious victory, Midway was not won because the United States knew how to conduct joint air operations. Rather, it demonstrated in embryo many of the problems that continued to bedevil those operations in future campaigns. We should not count on future Midways to compensate for continuing deficiencies in our ability to organize for, plan, and conduct joint air operations.

THE SCOPE AND FOCUS OF THE REPORT

In this report we will examine how the command and control of tactical air forces in the Midway battle and selected later air campaigns contributed to achieving the principle of unity of effort, with the objective of attempting to identify the sources of success, difficulty, and failure.³ What can we say to today's planners and commanders about the historical lessons of the joint air operations examined here? That question is the focus of our inquiry. This report is not an attempt to write history. Rather, it is an examination of a selected set of historical precedents of joint air campaigns to derive operational insights and lessons for joint planning today and in the future.

After brief reviews of service doctrines and the command and control of tactical air forces in the Midway battle, we turn to three joint air campaigns: the Solomons in 1942–1944, Korea in 1950–1953, and Vietnam in 1965–1968. Each contains vivid examples of success, difficulty,

¹Allard, 1990, pp. 2–3 (emphasis added).

²Throughout this report we will use the term “Air Force” to identify what has been called successively over the years the Army Air Corps, the Army Air Force, and the United States Air Force.

³In this report we expand the usual definitions of tactical air forces and tactical air operations to include medium and heavy bomber forces when the latter forces were used in tactical air operations (e.g., B-52 “Arc Light” missions in South Vietnam) or when tactical and bomber forces were used more or less interchangeably in the conduct of a campaign (e.g., attacks on Japanese shipping in the Solomons campaign). This definition is roughly consistent with the definitions in JCS Pub. 1.

and failure in organization, planning, doctrine, and command for accomplishing unity of effort. In our assessment of the campaigns we focus on four elements for evaluating to what degree unity of effort was achieved:

1. Evidence of *unity of command* and, in the absence of such unity, the command arrangements that were utilized to broker various interests.
2. The quality of *joint attack and defense planning* in exploiting the special capabilities of each of the services.
3. The quality of *joint operations and execution decisions*, their timeliness, their utilization of available information, and their improvisation in the face of uncertainty and adversity.
4. The degree of *tactical compatibility* and suitability among the forces of the different services in meeting mission requirements (as applied to equipment, doctrine and organization).

Because joint tactical air operations constitute a large subject in many dimensions, great care is needed in defining the scope of our inquiry. Our emphasis is on command and control, including organization, planning, exercising, and service doctrine, as employed to attain unity of effort toward a common strategic objective. The services of interest are the Air Force, the Navy, and the Marine Corps. Although the Army is an important customer for joint tactical air operations and fields a specialized tactical air force in its own right, the authors have chosen to have a lesser interest in the Army's role.⁴ This will offend some who correctly see control of the ground as the ultimate objective of warfare, but except for some discussion of close air support (CAS) doctrines we have chosen to leave the Army and Marine ground force interaction with tactical air operations to another study. Our root interest is in *the way the air aspects of a campaign are organized, commanded, planned, controlled, and executed in pursuit of a common strategic objective when the tactical air forces of more than one service are involved*.

Because the Strategic Air Command has performed a tactical air function in the past, we are interested in how those operations have been folded into air campaign planning, especially how strategic air assets were used in a tactical role.⁵

Some will quarrel with our exclusive focus on Pacific operations and resulting complete neglect of the European and African theaters in World War II. The explanation for this omission is simple: Few Navy and Marine Corps air forces were employed in those theaters; and when they were, their contribution was of short duration. The issue in Africa and Europe centered on combined, not joint, air operations.

METHODOLOGY AND SOURCES

Before we analyze the four case studies, we should provide a word about our methodology and sources. As indicated earlier, this report is not an attempt to write history but rather examines a selected set of historical precedents for joint air campaigns to derive operational insights and lessons for joint planning. Consequently, it relies on the official campaign histories of the different services (e.g., Futrell, 1981) and on memoirs of many of the participants

⁴However, a brief discussion of the interface between fixed wing and helicopter operations in Vietnam, both Army and Marine Corps, is included in Sec. VI.

⁵Substantial numbers of long-range heavy bombers (B-17s) were employed in a tactical role as early as Midway. The problems of coordination and employment of such strategic forces evidenced in that battle continued through the three campaigns described in this report.

(e.g., General Earle Partridge in Korea), as well as several authoritative unofficial and secondary sources (e.g., Sherrod, 1952). We have attempted to understand each campaign through the eyes of the official and unofficial historians of each service. We have accepted their reporting and judgments as “fact,” except where they differ. In that case we have attempted to establish what the facts were by relying on additional sources or by consulting the memoirs of the participants, which may be more candid than the official histories. We may not have been entirely successful in that endeavor, but we believe that the result is sufficiently complete to provide a basis for informed analysis.

After surveying the historical record, we identified the relevant information fitting under the four elements of unity of effort and assessed the performance of the tactical air forces singly and together under each heading for each campaign. In every case we attempted to be sensitive to the unique circumstances involved. Finally, we have undertaken an analysis of the lessons for unity of effort that might be learned looking across all four campaigns.

Before turning to the four case studies, we will examine the “players,” the major tenets of individual service doctrines, the effect of individual service experience on the conduct of air operations, and the implications for joint operations.

UNITY OF EFFORT AND UNITY OF COMMAND

To establish the foundation for our analytical framework, we need a definition of the principle of *unity of effort*. *Unity of effort* has often been defined synonymously with *unity of command*. This definitional issue has manifested itself in the expressions of individual service doctrines, their implementation in joint operations, and, ultimately, each of the services’ views of war. A definition of *unity of effort* is found in the official document describing the principles and responsibilities of joint operations, JCS Publication 2, *Unified Action Armed Forces (UNAAF)*:

- 1-1. **Unity of Effort.** Effective use of the military power of the Nation requires that the efforts of the separate Military Services be closely integrated.
 - a. Unity of effort among the Military Services at the national level is obtained by the authority of the President and the Secretary of Defense exercised through the Secretaries of the Military Departments and the Joint Chiefs of Staff, by the strategic planning and direction of the Joint Chiefs of Staff, and by common, joint, and cross-Service efforts by the Military Departments.
 - b. Unity of effort among Military Service forces assigned to unified or specified commands is achieved by exercise of operational command (OPCOM), by adherence to common strategic plans and directives, by sound operational and administrative command organization. This concept is the basis for a sound working relationship among the Joint Chiefs of Staff, the commanders of unified and specified commands, and the Military Departments and Services.⁶

In the authors’ perspective, unity of command is one of several necessary steps to achieve unity of effort. For the purposes of this report, unity of effort is defined as an overarching principle

⁶JCS Publication 2, *Unified Action Armed Forces (UNAAF)*, 1 December 1986, p. 1-1. This particular version reflects DoD adherence to the Goldwater-Nichols Department of Defense Reorganization Act of 1986.

encompassing “solidarity of purpose, effort, and command. It directs all energies, assets, and activities, physical and mental, toward desired ends.”⁷

Many of the difficulties in achieving unity of effort and with the concept as a whole have risen in the debates over appropriate strategies among both political authorities and the services. This report emphasizes theater-level employment of joint air forces and thus implicitly assumes general agreement on common strategic objectives. Therefore, the question becomes how best to achieve unity of effort through unity of command and not determining what the common objectives should be for the effort. That is more appropriately the subject of grand strategy, which is outside the scope of this report.

⁷Collins, 1973, p. 28.

II. DOCTRINE AND EXPERIENCE: THE SOURCES OF DISHARMONY

[T]he American military establishment embodies a tradition of service separatism, one that has been renewed and reinforced by patterns and paradigms of thought that stress the decisive effect of military force on the land, at sea, or in the air.¹

Each of the three services examined here—the Navy, Air Force, and Marine Corps—has a proud history and a distinctive doctrine. Each has had to fight for its independence; and the scars of those fights have helped shape its priorities, sensitivities, and incentives for cross-service cooperation or integration. The battle history of each has been distinguished by valor, tenacity, and bold leadership. Their occasional quarrels with each other should not overshadow their major contributions to the common defense. But even their most ardent advocates on occasion acknowledge that each could have done better in integrating or coordinating their efforts in the conduct of joint tactical air operations.²

Our intent here is not to conduct an analysis of the psyche of the three air services or a rigorous examination of the sources of their conduct.³ Nor is it to carp, as Congressional and armchair critics are wont to do, about interservice rivalry and what often appears as narrow self-interest or grabs for power at the expense of others. *There are differences among the air services, differences that are not capricious or self-serving, but rather founded on their distinctive missions and experience.* To comprehend those differences in preferences and methods one must start with the fact that each service's air arm had a difficult birth. Each had to fight powerful institutional interests within its own service or department to define a niche for its special tools and capabilities. Each has been paranoid about efforts to diminish or take over its roles, missions, or assets. *The differences among air services are based on the different missions that are a rationale for their separate existence. Attempts to harness these air services in a joint endeavor are often perceived as a threat to that separate existence.*

THE UNITED STATES AIR FORCE

Of the three major Services, the Air Force has primary interest in all operations in the air, except in those operations otherwise assigned herein.⁴

The Air Force's doctrine had its seeds in a decades long subordinate position in the U.S. Army structure. The Air Force leadership, and its antecedents in the U.S. Army Air Corps and U.S. Army Air Force, believed that air power was a new weapon that had a role independent of the traditional Army mission. Although the Air Force still recognizes its role in *supporting* the Army (and is sensitive to criticism that implies otherwise), it considers its mission to be much

¹Allard, 1990, p. 7.

²For example, the official U.S. Navy history of the Korean war criticizes the Navy leadership for initially not making a serious attempt to make the JOC a really joint enterprise and for dragging its feet on mechanisms to improve the control of tactical air operations. See Field, 1962, pp. 111, 392. For a parallel self-criticism of Air Force performance in joint air operations see Futrell, 1981, pp. 122, 213.

³Such an examination is presented by Allard, 1990, pp. 1–20; and Builder, 1989.

⁴"Functions of the Armed Forces and the Joint Chiefs of Staff" (Key West Agreement), 21 April 1948, Document 7, in Wolf, 1987, p. 163.

larger. The Air Force believes that air and space are vital media and that effective power in those media can dominate any battlefield.⁵

It follows that the Air Force believes that all air forces in a theater should be under a single commander and that commander should report directly to the theater commander and not be placed under other subordinate commanders.⁶ It naturally believes that an Air Force officer is usually best qualified to perform that function but would agree that another service's officer should perform the function in cases where most of the air assets involved belong to the other service and their commander is situated to exercise control and coordination responsibilities.⁷

The Air Force commander's fear is that scarce assets will be frittered away or otherwise misused when placed under the command of officers whose primary responsibilities are centered in operating in other media.⁸ The Air Force commander wants to be told what the objective is and then fashion an air and space strategy and associated operations plans that achieve it with the assets he has. He recognizes a responsibility to support nonair commanders, but he wants to do it his way—when and with what as he determines. He believes he has the responsibility of determining the mission priorities for his forces within the general guidance provided by the theater commander.

To summarize the Air Force view:

1. An air and space campaign is distinct from ground and naval operations.
2. The air and space campaign should be planned and directed by one commander, regardless of the sources of the air assets.
3. In most cases the commander best equipped to do the planning and commanding is an Air Force officer.
4. In no case should the tactical air commander be subordinated to a ground or naval commander; he should be responsible to the theater commander.
5. The tactical air commander, within the general guidance provided by the theater commander, is in the best position to determine priorities among various air missions in the theater.

The crux of the Air Force argument in joint tactical air operations is *unity* of air command and *equality* with naval and ground components in the theater command structure. The Air Force view has much to commend it. It suggests economy of effort by centralized control of air assets, and it supports a close alignment of authority and responsibility, the former a necessity in a time of scarcity and the latter a cardinal military virtue. But, as we shall see in our campaign analysis, the Air Force has suffered a long series of frustrations as these tenets of its doctrine were violated time and time again by unsympathetic theater commanders and jealous commanders of other service components.

⁵See Allard, 1990, pp. 89–95, for a survey of the development of Air Force theory and doctrine. Current USAF doctrine is set out in *Basic Aerospace Doctrine of the United States Air Force*, AFM 1-1, March 1984 (currently under revision).

⁶But the Air Force holds a different view about unity of command as it affects *strategic* air forces. It believes strongly that such forces should *not* come under the theater commander, although they can be tasked to support that commander. See Hansell, 1980, pp. 26–27.

⁷See John E. Valliere, "Stop Quibbling," *U.S. Naval Institute Proceedings*, December 1990, p. 39.

⁸Momyer, 1978, p. 39.

THE UNITED STATES NAVY

Of the three major Services, the Navy has primary interest in all operations at sea, except in those operations otherwise assigned herein.⁹

The experience of the Navy's air service paralleled the Air Force's in both timing (between World Wars I and II) and content (fighting for a larger role within the national security structure). The Navy's air service, however, was not fighting to be a separate service. Rather, it was fighting for a greater role *within* its own service, a service at that time dominated by surface warfare officers.¹⁰ While the Air Force's battle for independence was the tougher, the Navy air service in its battle for a greater role had its own formidable opponent in that service's traditional concepts of war fighting and concepts of organization.

The Navy's emerging consensus held that naval air operations were an important component of overall naval operations and that the former were too integral to the naval mission to permit their command by officers outside the seagoing command structure. Thus, the Navy fought two battles: the internal battle to provide an appropriate place for air capabilities within the naval structure, and the external battle to retain control of its own air assets.¹¹ The first battle was won in the vast reaches of the Pacific from 1942 to 1945. The second battle was renewed after World War II as the Navy fought to retain a niche for naval aviation in the national strategy and in the competition for the hardware dollar. We will discuss the effects of these postwar institutional battles on combat operations in Sec. V when we examine the Korean War experience.

The implications of these battles for the emerging Navy view of air operations were:

1. Naval air operations are inseparable from overall naval operations.
2. Naval air assets should not be tied down to a single battle area because of carrier vulnerability and because of negation of naval aviation's principal asset, its mobility.
3. Naval air assets should be under the command of the overall naval commander and not subordinated to a ground or air commander.
4. Naval air assets can provide valuable support to air and ground commanders, but those commanders must not dictate the timing and amount of such support.

In summary, the naval air commander also believes in unity of command. He believes that all air assets supporting fleet operations should be under the command of the fleet commander. Even when the fleet is operating in support of other commanders, the naval air commander believes the unique character and requirements of fleet operations require that fleet air assets be first applied to the sea control mission before being released to other missions.¹² The naval air commander is loath to tie down mobile naval air assets in a static role, particularly if it involves nonmaritime operations. He believes the principal asset of naval air forces is their tactical flexibility, strategic mobility, and self-contained base structure.¹³

⁹Wolf, 1987, p. 160.

¹⁰The Navy has no counterpart to the Air Force doctrinal publication, AFM 1-1. Its doctrine is scattered through several publications that guide naval force employment planning. There is no air doctrine separate from naval doctrine.

¹¹The Royal Navy's Fleet Air Arm lost both of these battles during the interwar years. With the notable exceptions of the strike against the Italian fleet at Taranto in 1940, the Royal Navy air arm was kept on a close leash in support of the on-scene surface warfare commander.

¹²An Air Force commander would make an analogous judgment concerning control of the air.

¹³See Cagle, 1972, pp. 107-108, for an eloquent statement of this belief.

THE UNITED STATES MARINE CORPS

To maintain the United States Marine Corps, which shall include land combat and service forces and such aviation as may be organic therein.¹⁴

The experience of Marine Corps aviation has been bound up in the role of the Corps itself in the nation's defense. While the need for Marine Corps aviation often has been questioned, that issue was generally submerged in the larger question of the need for the Marine Corps itself.

The Marine argument for its own air component is largely based on the unique nature of amphibious operations. Marine ground forces are by design light in artillery, armor, and combat support. Marine air forces (and naval gunfire support) in their close support role are intended to make up for unavoidable force imbalances, particularly during the critical period as the landing force is being put ashore and before other supporting arms are ashore in strength to provide support. But the Marine argument would extend also to the need for their own air in the later phases of an amphibious operation. The unique nature of Marine air-ground coordination of fire support is held to confer major advantages on Marine forces over forces without their own integral air forces.

Unlike the Navy and Air Force experience, Marine Corps aviation was fathered and nurtured on the basis of its close association with Marine ground elements. Indeed, without that association there was no justification for a separate Marine air service. To question the need for Marine air was to question the need for a Marine Corps. Consequently, the Marine Corps has stubbornly resisted any argument that its air service is an independent air force and has responded that it is an integral part of the Marine air-ground team.

Behind the tactical reasons for this view of the need for a separate but integrated Marine air service is a suspicion that the Navy and its air assets will not always be available when the ground Marine needs them. Unfortunately, this concern has on occasion been warranted.

The implications of these views for Marine Corps doctrine were:

1. Marine Corps air cannot be considered separately from the Marine Corps itself.
2. Without Marine air the Marine ground component is denied an essential combat component.
3. Marine Corps air serves its Marine ground component.
4. Marine Corps air cannot be placed under the command of another service component without unacceptable decreases in Marine combat capability.

The Marines join their two sister tactical air services in believing in unity of command—but across air-ground lines, not across theater or maritime/nonmaritime lines. The Marine most fears not having earmarked air support available when he needs it. He does not want to find at that moment that it has been diverted to meet the requirements of some other commander.

THE ISSUES AMONG THE SERVICES

The principal subject for disagreement among the services is clear: the clash between the Air Force tenet of unity of theater air command and the Navy and Marine Corps insistence on control of their own air assets along environmental (e.g., maritime) or combined-arms lines.

¹⁴Wolf, 1987, p. 161.

As has been suggested, there are valid reasons for each service's position, and to argue that one tenet is true for every occasion is fallacious if unity of effort is the goal. To resolve the issue into its component parts requires raising the following questions:

1. What degree of unity of command is required to achieve unity of effort?
2. When is unity of command not essential to effective tactical air operations? When is there no need for a single air component commander to control all air assets?
3. When does Marine air not have to be under the command of a Marine Corps combined arms commander?
4. When is naval air not needed to protect one's own naval forces or prosecute a naval campaign? When can carrier battle groups be positioned principally to support an air or land campaign?
5. When can combined-arms joint task forces be formed out of component supplied assets and made directly responsible to the theater commander and not component commanders?
6. When can air units of one service be placed under the control (or even command) of an officer of another service?

If the answers to these questions are positive, then the case studies will illuminate potential frameworks for improving today's joint air operations. If the answers are negative, then a much better understanding of the basis of current difficulties in conducting joint air operations will have been achieved. That improved understanding would be grounded in (1) the range of functions imposed on the various tactical air forces and (2) the U.S. penchant for optimizing within rather than across functions. That said, we will look for evidence that such suboptimization is the enemy of optimization across a range of threats, across theaters, and over time. We will return to these and other questions and their answers based on historical analysis in the last section of this report.

III. MIDWAY, 1942: PROLOGUE

Neither he [Spruance] nor Fletcher exercised any control over the air and ground forces on Midway Island.¹

Midway was both a campaign and a battle. The campaign encompassed the major force movements that preceded and followed the main battle and the simultaneous moves and separate battles in and near Alaska. Our focus is on the battle events of 3–5 June 1942 in the vicinity of Midway Island.

The Battle of Midway in June 1942 was the first major joint combat air operation conducted by forces of the Navy, Marine Corps, and the Army Air Force.² The battle was won, but it was an inauspicious beginning for service efforts to integrate combat air operations in pursuing unity of effort. *Midway was a triumph of strategic command and control, getting the forces to the right place at the right time with the right orders, and a failure at the operational and tactical levels of joint air operations, coordinating the efforts of those forces once they arrived.* In essence, unity of effort was accomplished by accident; a combination of factors, other than skill at conducting joint air operations, saved the day.

It is difficult at this remove to fully understand the desperate situation in the Pacific in the spring of 1942. The United States and its allies in the Pacific had suffered a nearly uninterrupted string of stinging defeats. Thanks to skillful intelligence and courageous command, the United States acted on the assumption that the next Japanese blow was intended in the central Pacific at Midway. Admiral Nimitz as the U.S. Commander in the Pacific scraped the bottom of the barrel for forces and concentrated them at or near the point of the Japanese attack. The result was a disparate collection of air forces under separate commanders, none of whom had worked together before. The strategic problem was to assemble and deploy the forces at the point of attack; the tactical problem was to organize and employ them for maximum effect. A solution to the first problem was at hand; there was insufficient time and experience to find a solution for the second before the blow fell.

THE TWO SEPARATE AIR BATTLES OF MIDWAY³

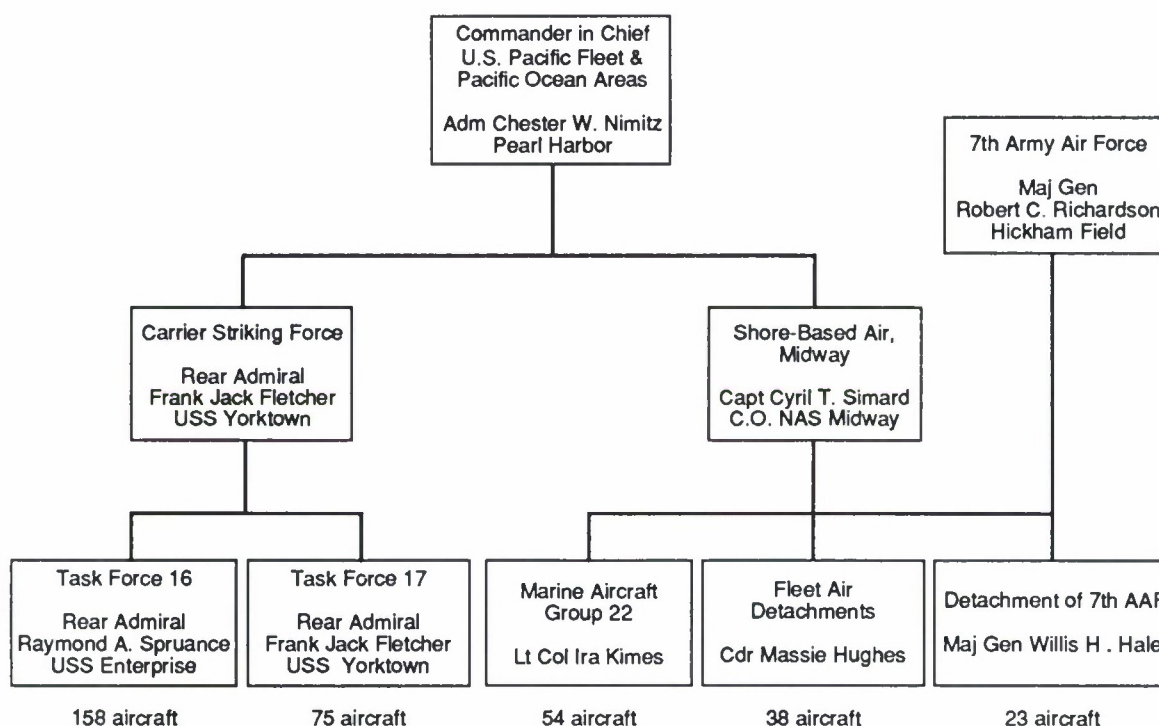
In May 1942 as the curtain went up on the battle for Midway, the command arrangements for the control of air operations looked like this. Admiral Chester Nimitz as Commander in Chief of the Pacific Ocean Area had control of all U.S. military forces in the Pacific region except those under the control of General Douglas MacArthur in the Southwest Pacific in the vicinity of Australia and New Guinea.

The U.S. air forces Admiral Nimitz marshaled to meet the Japanese Fleet at Midway were in two major commands, both subordinated directly to him as shown in Fig. 1. The first was the Carrier Striking Force under the command of Rear Admiral Frank Jack Fletcher. This

¹Morison, 1949, p. 85.

²There were some minor and largely coincidental joint air operations against Japanese naval forces during the Coral Sea battle in May. See Morison, 1949, pp. 31–32, 41–42, 61. The Doolittle raid against Japan in April was joint in the sense that Air Force B-25s were launched from Halsey's carrier decks.

³The sources for this account of the Battle of Midway are Morison, 1949, pp. 69–159; Craven and Cate, 1948, pp. 451–470; and U.S. Department of the Navy, 1948.



SOURCE: Morison, 1949, pp. 90–93.

Fig. 1—Air command arrangements during battle of Midway, June 1942

force had two task forces, the *Yorktown* Group commanded by Admiral Fletcher himself and the *Enterprise-Hornet* Group commanded by Rear Admiral Raymond Spruance. The second air force component was the shore-based air at Midway itself. This group was under the command of Captain Cyril Simard, USN, the Commanding Officer of the Naval Air Station at Midway.

Captain Simard had command of a curious mix of air forces from three services. First, there was a Navy component of 32 Catalina patrol planes and six new Avenger torpedo bombers. Second, Marine Air Group 22 comprised some 27 fighters and 27 dive bombers. Finally, an Army Air Force component encompassed 19 B-17s and four B-26s from the Seventh Army Air Force based in Hawaii. The senior Navy flyer under Captain Simard was Cdr. Massie Hughes, the senior Marine aviator was Lt. Col. Ira Kimes, and the senior Army Air Force officer was Major General Willis Hale.⁴

Except for the transmission of enemy sighting reports by search aircraft of the Midway force, there was no contact during the battle between the joint Midway air forces and carrier striking forces. Admirals Fletcher and Spruance fought one air battle and Captain Simard and his bizarre menagerie fought another. Captain Simard had only a pickup staff to plan and

⁴Captain Simard had been “spot promoted” from the rank of Commander by Admiral Nimitz the week before the battle. The disparate ranks of the various commanders involved played no observable role in the decisionmaking before and during the battle.

conduct his portion of the battle. He relied heavily on the recommendations (and individual initiative) of the “component commanders” from each of the three air forces under his control.

After several uncoordinated and ineffective attacks by Midway’s land-based forces of all services, Navy carrier-based dive bombers attacked and sank or crippled all four Japanese carriers. The operational command and control questions raised by this episode relate to the lack of coordination of carrier- and land-based air attacks on the Japanese fleet, and at another level the similar lack of coordination *within* the land-based and sea-based components mounting the attacks.⁵

There are some reasonable explanations for the lack of coordination. As between the land- and sea-based components, the carrier group’s survival and the success of Nimitz’s plan depended on concealing the presence of the carriers from the Japanese. Nimitz was setting an ambush. This required radio silence until his carrier force positions were discovered. Radio silence limited coordination to one-way communications paths from Nimitz in Pearl Harbor and Simard at Midway to Fletcher and Spruance at sea. Were these paths fully exploited? The evidence suggests they were not; but even so, a combination of relayed and intercepted contact reports were adequate to inform Fletcher and Spruance of the enemy’s location and course. What is not clear is whether they were similarly well informed of the timing, composition, and targets of attacks conducted by the Midway force.

As to the command and control of the forces based at Midway, there are also reasonable explanations for the lack of coordination. One can hardly imagine a more mixed bag of combat aircraft and units than those flying from Midway on 3 and 4 June 1942. Captain Simard had firm orders from Admiral Nimitz to go after the Japanese carriers and not hold back anything for the direct defense of Midway. Of necessity he launched his long-range forces first—with the PBY and B-17 attacks on 3 June. As the Japanese forces came in range of his shorter legged bombers he launched them on the morning of 4 June together with a reattack by the available B-17s.⁶ These attacks were ragged and showed no coordination across aircraft types and services. Table 1 portrays the results.

The question is whether anything more could have been done, given the pickup nature of Simard’s forces. The evidence shows that each attack was staged separately under the command of the senior aviator of each service. One wonders what would have been the result if the senior Marine (or Navy, or Army Air Corps) aviator had been told to act as attack force commander and orchestrate a coordinated attack.

A coordinated strike was *possible*. The scramble to launch to avoid destruction on the ground at Midway and go after Nagumo’s carriers did not *require* different times on target. There may have been time for the faster attack elements to loiter at a point offset from the axis between Midway and the Japanese forces and then strive for some reasonable simultaneity of attack. But this presupposes that the positions of the Japanese forces were known with great certainty, which was not the case. As it was, the Midway-launched attacks on the Japanese force straggled in over a period of an hour and ten minutes. This second guessing as to what may have been possible in a perfect planning environment (Midway Island on the night of 3–4 June was the direct opposite) overlooks the fact that nothing in the training, doctrine, planning, and command arrangements provided for or supported such an attack concept.

⁵The lack of coordination among the attacks launched by the *Enterprise*, *Hornet*, and *Yorktown* airgroups is an interesting subject in its own right. It is not examined here because of the emphasis on joint air operations.

⁶Simard was under pressure to get his strikes off before Midway was hit by Japanese carrier aircraft. This urgency required that aircraft of all types be airborne as quickly as possible with little regard for speed and altitude capabilities of the diverse aircraft and the difficulties of conducting a coordinated strike with them.

Table 1
TIMING OF THE ATTACKS ON THE JAPANESE FLEET^a

Date	Time of First Attack	Distance from Midway	Composition of Attack Force	Results
3 June	1624	570 nmi	9 B-17 (Midway)	None
4 June	0143	280 nmi	4 PBV (Midway)	1 oiler damaged
4 June	0710	150 nmi	4 B-26, 6 TBF (Midway)	None
4 June	0755	150 nmi	16 SBD (Midway)	None
4 June	0810	150 nmi	15 B-17 (Midway)	None
4 June	0820	150 nmi	11 SB2U (Midway)	None
4 June	0930	150 nmi	15 TBD (Hornet)	None
4 June	0940	150 nmi	14 TBD (Enterprise)	None
4 June	1000	150 nmi	12 TBD (Yorktown)	None
4 June	1018	150 nmi	17 SBD (Yorktown)	1 carrier sunk ^b
			and	
			37 SBD (Enterprise)	2 carriers sunk
4 June	1700	200 nmi	24 SBD (Enterprise)	1 carrier sunk
4 June	1800	200 nmi	12 B-17 (Molokai-Midway)	None
4 June	1900	200 nmi	11 SBD/SB2U (Midway)	None

^aAll times from Morison. All distances from Naval War College Analysis.

^bWe make no judgments as to whether *Yorktown* or *Enterprise* SBDs hit the Japanese carriers first and who sunk what.

UNITY OF COMMAND

Nimitz chose to coordinate the two components of his air power from his headquarters at Pearl Harbor. In effect he acted as his own air and naval component commanders. Nimitz did not have a joint staff. He relied on advice from the Commander of the Seventh Air Force at Hickham for such Air Force staff support as was needed. Nimitz's decision to retain control of the two air components was driven by the necessity for concealing the carrier striking force's location and to unburden the afloat commanders.

Given this decision it was incumbent on the Midway command to keep Nimitz and the afloat commanders advised as to both enemy location and land-based air attack times and strike composition. While Nimitz was well informed, the afloat commanders were critically dependent on radio intercepts from land-based search planes for locating information. There is no evidence of U.S. strike launch messages from Midway to the afloat commanders outlining targets, target times, and strike composition of U.S. land-based aircraft. In fairness, it is not clear what the afloat commanders would have done with such information, given their initial uncertainties of enemy force locating information.

JOINT ATTACK AND DEFENSE PLANNING

There was minimal coordination between the land- and sea-based components of U.S. air-power at Midway. Nimitz, Spruance, and Fletcher were aware that land-based strikes would be conducted, probably taking off at first light on 4 June. Midway was generally aware that Spruance and Fletcher would launch their strikes on the basis of the first sighting of the enemy carriers on 4 June. But after that it was "launch the forces of the two components on

their own” and hope that events conspired to lend some degree of synergism and coordination. The afloat forces at least had a common doctrine for a simultaneous torpedo and dive bomb attack. As Table 1 indicates, this doctrine served more in its default than in its execution. The land-based air forces were so diverse that apparently little effort was made to conduct a coordinated attack on the morning of 4 June. Four separate attacks were conducted over a period of 70 minutes.⁷ These piecemeal attacks were paralleled later by the piecemeal torpedo attacks from Fletcher’s and Spruance’s carriers.

JOINT OPERATIONS AND EXECUTION DECISIONS

One cannot fault the various U.S. commanders’ launch decisions on 4 June. Spruance and Fletcher had to await the locating information on the Japanese carriers, and Simard had to launch his air units at first light or risk losing them on the ground. Nevertheless, the land-based strikes could have been based on an integrated strike plan—with the longest legged strike aircraft launching first and perhaps following their shorter-range companions to the target. Not only was timing of the strikes not coordinated, the B-17s were sent off to attack the invasion force and had to be diverted to attacking the Japanese carrier force.

TRAINING AND TACTICAL INCOMPATIBILITY

Simply put, this force had no joint training and was as wildly incompatible tactically as one can imagine. None of the land-based forces had been in combat previously. Most of the air crews were inexperienced, many were flying aircraft in which they had only recently transitioned, almost all were without adequate ground crews. Not only were there two campaigns, one land- and the other sea-based, the Marine dive bombers, the Air Force and Navy torpedo bombers, and the Air Force heavy bombers conducted three separate land-based subcampaigns. Midway’s air defense lacked coordination problems but only because its fighter force was composed solely of Marines.

OVERALL EVALUATION

It is difficult to fault the U.S. tactical air commanders at the Battle of Midway given the state of training, readiness, and the urgency of the situation they faced. In a more perfect world one would hope that the three services would have conducted cross training, would have a doctrine for joint operations, would be led by a commander with a joint staff, and would execute plans that reflected a combined arms view. Would the result have been different at Midway? One must counter with another question: If Nagumo (the Japanese strike fleet commander) had not dithered in his decision to restrike Midway, would an effective land-based strike have been critical to a favorable outcome? If the answer is maybe or yes, there is a *prima facie* case for improved command and control of joint air operations.

In short, the time available and the nature of the forces involved did not afford the essentials needed for coordinated attacks. These difficulties masked the implications inherent in the lack of an organization and doctrine for the conduct of joint air operations. These difficulties were to become more apparent at Guadalcanal four months later.

⁷These attacks lent additional credence to the Japanese decision to restrike Midway, which led to the destruction of the Japanese carriers as their planes rearmed and refueled on deck.

IV. THE SOLOMONS CAMPAIGN, 1942–1944: JOINT AIR OPERATIONS COME OF AGE

[T]his brotherhood of airmen called itself “The Cactus Air Force.” Always outnumbered in the air, rarely possessing more than a handful of dive and torpedo bombers to protect an island under virtual blockade, often only a hairbreadth away from grounding through lack of gasoline or defeat by attrition, the Cactus Air Force held on. . . . It exerted a decisive influence on the Guadalcanal campaign.¹

While Midway was a “come as you are” affair, one conducted with a quickly assembled pickup force and critically dependent on surprise, the battles for the Solomons constituted an extended campaign. In many ways this campaign decided the outcome of World War II in the Pacific. Many bloody battles were to follow, but the major issue was resolved in 1942–1944 in a campaign of attrition that saw Japanese tactical air and naval forces bled white.

In the Solomons there was time to plan, to reinforce, and to set up suitable command arrangements beforehand. There are two phases of this campaign of interest to our analysis:

- August 1942–February 1943: The seizure of Guadalcanal.²
- February 1942–April 1944: The isolation of Rabaul.³

THE SEIZURE OF GUADALCANAL

The U.S. Commander in the South Pacific in July 1942, as the planning for the seizure of Guadalcanal and Tulagi started, was Vice Admiral Robert L. Ghormley. He reported directly to Admiral Nimitz and had under his control Navy, Marine Corps, and Army (including Army Air Force) forces as shown in Fig. 2. Admiral Ghormley had three principal task forces (TFs) under his command as he prepared to seize Guadalcanal and Tulagi.

- *TF 61*, the expeditionary force under Vice Admiral Frank Jack Fletcher, containing three carriers.
- *TF 62*, the amphibious force under RADM Richmond K. Turner (1st Marine Division embarked).
- *TF 63*, the land-based air force under RADM John S. McCain (COMAIRSOPAC) and composed of units of the Navy, Marine Corps, Air Force, and Royal New Zealand Air Force.⁴

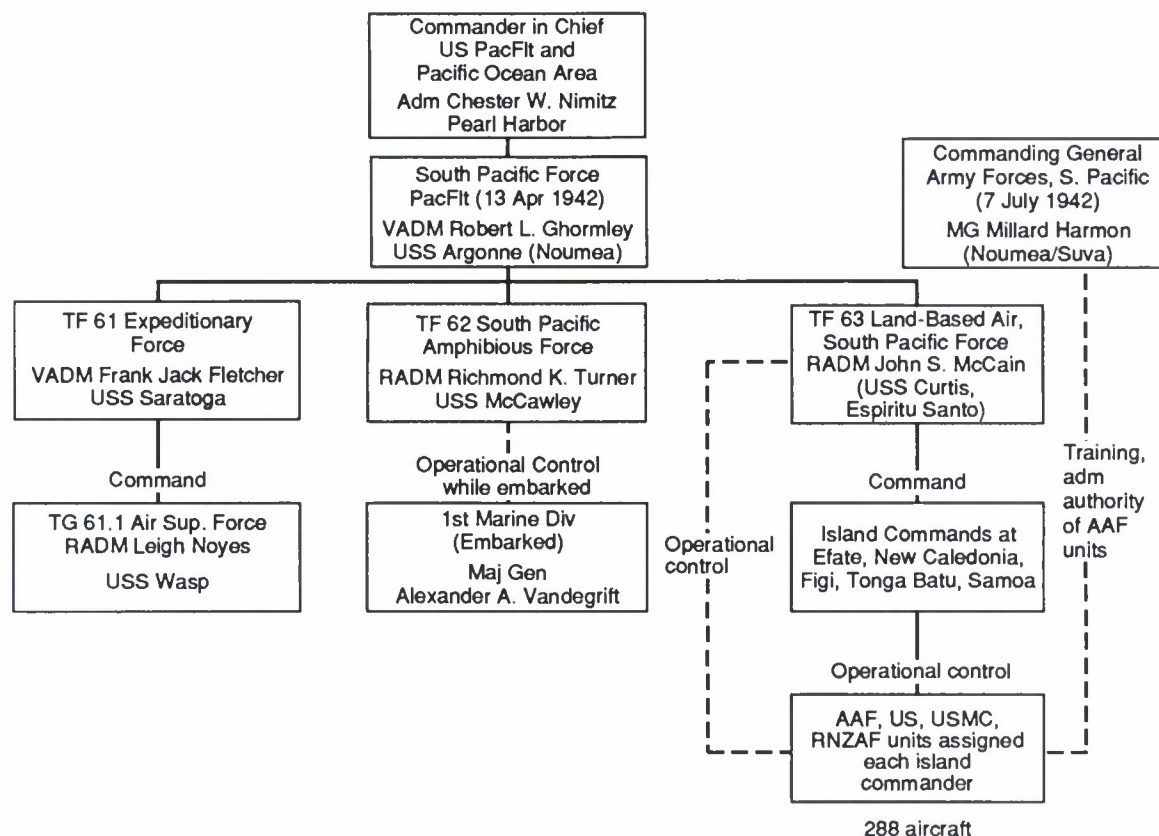
To further complicate matters, General Douglas MacArthur, as Commander Southwest Pacific Area, and the adjoining theater commander, had his own air forces composed of Air Force and Royal Australian Air Force units. Some of these units were committed to the support of the landings in the Solomons. At the top level there was a three-way air coordination problem among Fletcher’s carriers, McCain’s in-theater land-based air, and the adjoining land-based air reporting to General MacArthur.

¹Miller, 1969, p. xi.

²The reader who wishes a quick refresher on the details of this phase is referred to Morison, 1963, pp. 164–214.

³See Morison, 1963, pp. 272–294.

⁴These land-based units ranged from long range bombers (B-17s) to short legged fighters and from the most modern aircraft off the production line to aeronautical antiques. They were scattered through the islands of the South Pacific but principally on Fiji, New Caledonia, and the New Hebrides.



SOURCES: Morison, 1949, pp. 270-275, Craven and Cate, 1950, p. 29.

Fig. 2—Air command arrangements for Guadalcanal operations, August 1942

The Navy's Interim Solution to the Command Arrangement Problem

At a lower level Admiral McCain had the problem of orchestrating the efforts of four distinct land-based air forces. Once the Marines were ashore on Guadalcanal an additional dimension was introduced: land-based air on Guadalcanal itself.

Nimitz's solution to these problems was to place all land-based air forces in the South Pacific theater under Rear Admiral McCain's control before the invasion. This involved placing Air Force (and other service) units under the control of a subordinate to Admiral McCain (typically an island garrison commander). The Air Force commanders in the region objected to this arrangement and pushed for a separate Air Force component commander reporting directly to Admiral Ghormley, or failing that a separate Air Force commander reporting directly to Admiral McCain.

The compromise that was reached left an Air Force component commander responsible for the training and administration of his forces but subordinated the forces on any given island base to the base commander who in turn reported to Admiral McCain.⁵ Admiral

⁵Craven and Cate, 1950, pp. 16-18, 29-32.

McCain retained *operational control* and issued orders directly to the air units assigned to him.⁶ He had the additional responsibility of ensuring his air operations supported the afloat task force commanders and were coordinated with the adjoining theater commander. Left unresolved for the moment was the question of whom a future U.S. air commander on Guadalcanal would report to: the local ground commander or Admiral McCain.

Initial Operations

The landings on Guadalcanal and Tulagi occurred on 7 August 1942. During and after the landings, naval carrier air and long range air support flown from Espiritu Santo and Efete in the New Hebrides provided tactical air support. However, the carriers were withdrawn on D+2, and the support from the New Hebrides was too distant to be of much use. Thus, for most of the first two weeks after D-Day the Marines ashore were left without tactical air support. The first land-based tactical air units arrived at Guadalcanal on 20 August and consisted of a Marine fighter squadron and a dive bomber squadron both launched from some distance away by a transporting Navy jeep carrier.⁷ Five Army Air Force P-400s (a low altitude export version of the P-39 fighter) arrived two days later. These were followed on 24 August by a dive bomber squadron launched from the USS *Enterprise*. These hybrid components from the three services formed the initial "Cactus Air Force."

This pickup air force on Guadalcanal was initially under the command of Lieutenant Colonel Charles L. Fike, USMC, who flew in on 20 August. Fike was relieved on 31 August by Colonel William J. Wallace who in turn was relieved on 3 September when Brigadier General Roy S. Geiger, USMC, Commander 1st Marine Air Wing, arrived on Guadalcanal to take command of all air units on Guadalcanal as the first "ComAirCactus."

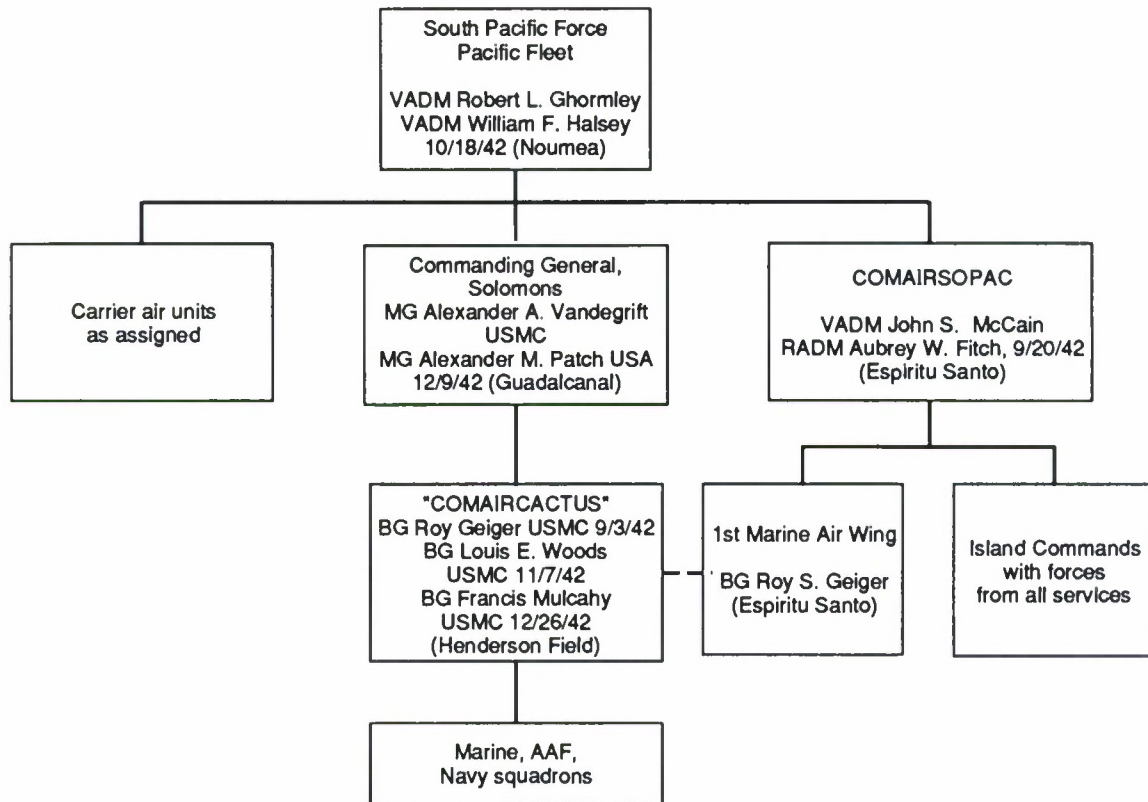
At this point the command arrangements appear to have been improvised as follows.⁸ General Geiger left his headquarters behind on Espiritu Santo in the New Hebrides but moved himself and a small staff to Guadalcanal to direct combat air operations personally. As Commander 1st Marine Air Wing he was under the operational control of Admiral McCain, but as "ComAirCactus" he also reported to General Vandegrift, the Commanding General of the 1st Marine Division and the senior officer in the Solomons (see Fig. 3). One might say that Rear Admiral McCain (and later Rear Admiral Aubrey Fitch) provided the planes and the crews and General Geiger gave them their orders. The remarkable element of this three-sided amalgam of command is that one cannot detect the slightest criticism of the arrangement in either official histories or in eyewitness accounts.

The air operations that General Geiger directed had a broad sweep. They included air defense of the ground forces and naval surface forces in the vicinity, close air support and battlefield air interdiction, and attacks on opposing Japanese naval forces. There were no cross service quarrels as to which component did what. Marine and Navy aviators joined in attacking Japanese naval forces attempting to reinforce their ground forces on Guadalcanal and defending the precious airstrips on that island. They were joined by Air Force B-17 crews

⁶In current DoD usage, operational control is synonymous with operational command. As the term *operational control* was used in World War II and Korea, it meant the authority to assign missions and tasks to subordinate commanders. It did not include authority to assign separate employment of components of assigned units (that authority was considered "operational command").

⁷The first aviator Marine on Guadalcanal arrived on 15 August (D+8). He was Major Charles H. Hayes, USMC, the first operations officer of Henderson Field.

⁸A close reading of the official histories and the better unofficial histories does not reveal any explicit formulation for these command arrangements for ComAirCactus. The interpretation presented here is corroborated by a conversation with Henry I. Shaw, Jr., former Chief Historian and Senior Editor of the Historical Branch of the U.S. Marine Corps.



SOURCE: Morison, 1949, pp. 73-75.

Fig. 3—All command arrangements in South Pacific, September 1942–February 1943

flying out of the New Hebrides. Air Force aviators on Guadalcanal, handicapped with low altitude fighter aircraft, flew close air support for Marines. All these air operations were satisfactorily coordinated with carrier operations when task forces were near the Solomons. The Navy and Marines shuttled in carrier aircraft to replenish stocks of pilots and aircraft on Guadalcanal. It was not unusual for a Navy carrier pilot landing on Guadalcanal for refueling to find himself diverted to attack Japanese shipping, launch on an air defense sortie, or be called upon to assist Marine ground forces with close air support. In all of this the press of battle was such that there was no time or incentive for roles and missions issues to appear.⁹

⁹Indeed, one might speculate that this press of time and events was an advantage in that doctrinal, equipment, and personality differences were suppressed in the Solomons. But doctrinal issues did surface back at headquarters. The Commander of U.S. Army Forces in the South Pacific in Noumea fumed that the senior Air Force commander lacked operational control of Air Force forces. He was held responsible for their performance in combat but believed he had little to say about their employment. See Craven and Cate, 1950, pp. 70-74. This question of operational control seemed to concern senior commanders and historians more than commanders at the scene of battle, but it was a pattern that was to be duplicated in Korea and Vietnam.

THE ISOLATION OF RABAU

By February 1943 the land battle for Guadalcanal was over and the march up the Solomons chain began. The Air Cactus Command had matured with the benefit of the Guadalcanal experience and gained a new name, "COMAIRSOLS." As Sherrod points out:

AIRSOLS was a unique and singularly effective organization. Its staff was a mixture of Navy, Army, Marine, and New Zealand officers and the top job was rotated fairly regularly among the services.¹⁰

By early 1943 a truly joint staff had emerged from the nucleus provided by the 1st Marine Air Wing. An indicator of the jointness is obvious from a roster of its commanders shown in Table 2. The official Army Air Force history, although critical of most joint air endeavors, notes:

The task of welding this conglomerate air force into a smoothly functioning organization was not an easy one nor was it achieved at once, but no problem proved insoluble and COMAIRSOLS represents a notable achievement in inter-service cooperation.¹¹

The air operations under COMAIRSOLS ran the gamut from attacking enemy naval forces and shipping to providing support during amphibious assaults to providing air defense for the region to launching major bombing attacks on Japanese bases and installations through the Solomons chain to the major Japanese hub at Rabaul. These operations were not without command and control difficulties. For example, during the final stages of the Guadalcanal battles it became apparent that a single commander was necessary to direct the fighter efforts of all services, and on 1 February 1943 the Commanding Officer of Marine Aircraft Group 12 took on these duties. A new COMAIRSOLS air operations plan on 11 March 1943 set up two additional commands: a strike command to attack enemy shipping and naval forces as well as air fields, and a separate bomber command for conducting long-range bombing and search operations.¹²

The bomber command was made up principally of long-range Air Force bombers and Navy patrol aircraft, the strike command of Marine and Navy fighter and attack aircraft, and

Table 2

ROSTER OF COMMANDERS OF "AIRSOLS"

Dates		Commanders
3 September 1942	– 7 November 1942	BGEN Roy Geiger USMC
7 November 1942	– 26 December 1942	BGEN Louis Woods USMC
26 December 1942	– 15 February 1943	BGEN Francis Mulcahy USMC
15 February 1943	– 29 March 1943	RADM Charles Mason USN
29 March 1943	– 25 July 1943	RADM Marc Mitscher USN
25 July 1943	– 20 November 1943	MGEN Nathan Twining AAF
20 November 1943	– 15 March 1944	MGEN Ralph Mitchell USMC
15 March 1944	– 20 April 1944	MGEN Hubert Harmon AAF
20 April 1944	– 29 May 1944	BGEN Field Harris USMC ^a
29 May 1944	–	BGEN James Moore USMC

^aAlso designated as COMAIRNORSOLS.

¹⁰Sherrod, 1952, p. 131.

¹¹Craven and Cate, 1950, p. 89. Similar praise is repeated on pp. 203–204.

¹²Craven and Cate, 1950, pp. 88, 210–211.

the fighter command of fighters of all three services. Many operations required the close coordination of all three commands in the same attack.¹³

With the assault on New Georgia on 3 June 1943, a new subordinate air command under COMAIRSOLS was set up: COMAIR New Georgia. This new organization, composed of personnel drawn from the 2d Marine Air Wing, was attached to the New Georgia occupation force (Marines). As movement progressed farther up the Solomons chain, an additional organization called COMAIRNORSOLS was set up on 1 September 1943 before the landings on Bougainville.

OVERALL EVALUATION

The command and control hallmarks of the Solomons air campaign were a willingness to improvise, a subordination of service doctrine and mission biases to urgent operational demands, and the emergence of a truly joint air operations organization. In many respects the Solomons campaign of 1942–1944 was to be the high watermark of “jointness” and unity of effort in air operations until the midpoint of the Vietnam war. Never before and rarely since has there been the same degree of cooperation, coordination, and willingness to put service interests aside in prosecuting an air campaign. What accounts for this superb performance?

First, it must be said that survival and winning when the issue is in doubt are major incentives to put lesser concerns aside. In the early Guadalcanal battles, survival of the beachhead was in jeopardy. The enemy contested control of the air over the battlefield until late in the campaign. Air commanders have not faced similar challenges in later wars. In the Korean and Vietnam wars U.S. airfields and naval forces were not placed under air attack, and the staffs were themselves seldom threatened. In the Solomons, everyone in the islands was under threat of attack at any time. In short, there was more than enough battle to go around for everybody.

Second, there was a lead service for the Solomons at the outset. Naval aviators called the shots all the way up the chain of command in the early days of the campaign. This resulted in the subordination of Air Force units to naval and marine commanders. There was simply no question of an Air Force officer directing early air operations. When an Air Force officer did succeed to command, the system was already functioning and Navy and Marine unit commanders had no difficulty in accepting his tasking. The selflessness of officers of all services, and particularly at junior and intermediate command echelons, in putting service and doctrinal interests aside greatly contributed to the ultimate success.

And finally, the multifaceted nature of the air battle for the Solomons needed the unique capabilities that all the services brought to the fight. There was a place for long-range Air Force bombers, the sea service’s dive bombers, and the fighters of all the services. Even each service’s substandard equipment contributed mightily to the outcome, whether it was Air Force P-39s and P-400s, Marine SBDs, or Navy PBVs. In effect, there was scope for nearly full play for the mission, doctrine, and equipment of all services.

¹³One typical attack group consisted of 36 SBD dive bombers (USMC and USN), 35 TBF torpedo bombers (USN and USMC), 7 B-24s (AF), and 114 fighters (all services). Craven and Cate, 1950, pp. 226–227. (See p. 217 for a description of a joint mine-laying operation and pp. 260–261 for a joint land- and sea-based air strike against Rabaul.)

Unity of Command

The best that can be said about unity of command in the South Pacific theater is that it was both sufficient and flexible in meeting changing circumstances. The important unity was that the *land-based air forces in theater* were under a single commander, COMAIRSOPAC. It is ironic that the Air Force leadership, which before and since has argued most strenuously for a single theater air commander, should have found such an arrangement so burdensome. The senior Air Force commander's argument in this case was not that carrier air should be under the theater air commander (though that argument probably would have appealed to him), but that Air Force forces were under Navy and then Marine Corps control. In the Korean conflict, the Navy suffered from a similar service-centered myopia. The Marines' turn was to come in Vietnam.

The land- and sea-based air interface apparently did not create major problems. Part of the reason for this was the quick withdrawal of the carriers after the initial landings on 7 August 1942, the scarcity of any carrier air over most of the next year, and the gradual diversion of carriers to mid-Pacific operations in the following year. Although several carrier battles were fought during the Solomons campaign, they were more navy on navy affairs and did not require a high degree of coordination with land-based aviation.¹⁴

There were several opportunities to fracture the unity of command concept during the campaign, but flexible command structures won the day. The first of these opportunities was the dual subordination of COMAIRCATUS to COMAIRSOPAC and Commanding General Solomons. This setup worked because the Navy and Marines were comfortable with it. Admiral McCain (and later Admiral Fitch) saw their role after the Guadalcanal landing as one of providing aircraft, crews and supplies to an engaged COMAIRCATUS and of providing him long-range bomber and search support. COMAIRSOPAC did not interfere to any great degree in the conduct of air operations under COMAIRCATUS.

The other opportunities occurred when the campaign moved up the Solomons chain and COMAIRSOLS could no longer effectively exercise air command in the objective areas. Improvising, he set up subordinate commands to handle local air defense and beachhead protection. COMAIRSOPAC for his part resisted the temptation to set up additional commands reporting to him.

Joint Attack and Defense Planning

In most of the many cases of joint attack and air defense operations, the peculiar characteristics of each service's equipment and training were exploited or were the object of flexible ad hoc arrangements. This process was greatly facilitated by the establishment of separate subordinate COMAIRSOLS commands for air defense, strike, and bombing missions. The fact that all three of these subordinate commands could coordinate in joint missions within acceptable limits is a testimonial to both the command arrangements and the quality of the planning. Several examples of this excellent planning and employment have already been cited. There were many more.¹⁵ The remarkable feature of this planning in many cases was the little time

¹⁴But see Craven and Cate, 1950, pp. 260-261; and Blackburn, 1990, pp. 134-137.

¹⁵One vignette in particular stands out. Early in the Guadalcanal landings, it was found that the Air Force P-400s had little high altitude performance and were thus poorly configured as air superiority fighters. However, with a large caliber cannon and some machine guns they were an adequate ground attack platform. Marines equipped with F4Fs (and later F4Us) were not as well equipped for ground attack missions, and their SBD dive bombers that were suitable for ground attack found themselves diverted to attacking Japanese naval forces and shipping. COMAIRCATUS's solution to this problem was to give the Air Force fighters a large part of the close air support (CAS) mission and the Marines the air defense and strike missions. This role reversal in cherished service mission priorities by Air Force and

to do it. In the early days of the Guadalcanal campaign it was largely hand to mouth. This raises the question of *whether the quality was in the plans or in the ability to plan adequately quickly*. We lean to the latter interpretation.

Joint Operations and Execution Decisions

Because the Solomons battles constituted a campaign, there were many execution decisions. The official campaign histories are remarkably silent or laconic on the shortcomings and comment at length on the good decisions. A controversial decision was Vice Admiral Fletcher's decision to withdraw from the vicinity of Guadalcanal on D+2 because he feared for the survival of his carriers in the face of projected major Japanese air assaults. His caution was based on the fact that his carriers were all that stood between the Japanese Navy and complete domination of the Pacific, including the tenuous supply line to Guadalcanal. Nevertheless, the withdrawal of the carriers on 9 August and the interval until 20 August when the first Marine squadrons arrived left an indelible impression on the Marine Corps leadership that they needed to have and control their own tactical air.¹⁶ Another possible misjudgment was the Air Force's reticence to stage heavy bomber aircraft forward in the Solomons.¹⁷ One reason given in the official history for this was that there were inadequate dispersal areas to protect the aircraft that were forward based. The Air Force was critical of the Navy's penchant for bunching up their aircraft on the ground as though they were on the flight deck of an aircraft carrier.¹⁸

But it is not clear that this Navy practice was particularly costly on a sortie generation basis. The Navy actually had little choice but to operate forward. Nevertheless, the Navy could have paid more attention to providing dispersal areas to reduce the size of the target array presented to Japanese airmen and naval gunners. But even there, a tradeoff existed between building more airfields or enhancing the existing airfield dispersal areas.¹⁹

On the credit side of the ledger was the near flawless performance of Air Force units under COMAIRSOLS in shooting down the bomber carrying Admiral Yamamoto en route down the Solomons chain.²⁰ A less renowned exploit involved RADM Kinkaid's decision on 12 November 1942 to launch his *Enterprise* aircraft on a search and to recover at Henderson Field on Guadalcanal to help its defenders. While airborne, the search aircraft encountered a damaged Japanese battleship, attacked it successfully, landed at Henderson Field and rearmed, and then reattacked in company with Marine and Air Force aircraft.²¹ This type of inspired decisionmaking, with little attention to roles and missions and whose aircraft belonged to whom was typical of the combat leaders of all services on the scene in Solomons operations.

Marine commanders in the face of the enemy is remarkable even today almost 50 years later. See Morison, 1963, p. 74; and Craven and Cate, 1950, pp. 40-42. For a less impressive episode, see Blackburn, 1990, pp. 176-177.

¹⁶There were (and are) several other doctrinal and equipment reasons for the Marine assertion that they need their own tactical air.

¹⁷Except for small units of the 67th Fighter Squadron, no Air Force units were based on Guadalcanal until December 1942 (four months after D-Day). Most early Air Force support was in the form of heavy bombers flown from the New Hebrides. Craven and Cate, 1950, p. 42.

¹⁸Craven and Cate, 1950, p. 215.

¹⁹Between the landings on 7 August 1942 and 1 February 1943 the Navy had finished one airfield (Henderson Field) and built four more, including two major bomber fields on Guadalcanal.

²⁰Craven and Cate, 1950, pp. 213-214. Some have questioned whether the Yamamoto shootdown was a joint operation. The operation was planned by COMAIRSOLS (and particularly the Air Solomons Fighter Command). The attack was carried out by P-38s of the Army Air Force's 13th Fighter Command. An attack option using Marine F4Us was ruled out because of their shorter range. See Condon, 1990, pp. 86-91.

²¹Morison, 1963, pp. 260-261.

Training and Tactical Incompatibility

The principal training and tactical incompatibility between the services was in the Air Force's utilization of its new bombers as high altitude bombing platforms when most of the important targets early in the campaign were either naval and shipping targets or enemy troops in the field. The ineffectiveness of high altitude heavy bombers in attacking surface ships had been demonstrated at Midway and was demonstrated again during the Solomons campaign.²² The medium bombers were more effective against these targets, and their Air Force unit commanders devised excellent antiship tactics as the campaign wore on.²³

Although higher performance fighters of the services were nearly interchangeable in their mission tasking, the bomber aircraft were not. The journeyman dive bomber (the SBD, Douglas "Dauntless" dive bomber) of the Navy and the Marines was the perhaps the best antiship weapon in the hands of competent airmen. As at Midway, they continued to carry the load. Torpedo bombers were a distant second for this mission. As at Midway, it was difficult to put together a strike with tactically compatible aircraft. What was different in the Solomons campaign is that the airmen had time to learn from their mistakes and to either coordinate their efforts or ensure they did not interfere with one another. Adherence to the old soldier's admonition "march to the sound of the guns" overcame all manner of tactical problems. One is also left to ponder the predicament of their opponents, who never knew from what altitude or azimuth the attack would come.

²²Craven and Cate, 1950, pp. 63-68.

²³Blackburn, 1990, pp. 210-211.

V. KOREA 1950–1953: THE RENEWED CLASH OF SERVICE AIR COMMAND AND CONTROL DOCTRINES

Since the focus of action was always on land, the three services were pretty constantly mixed up in each other's affairs, and a single service history became an impossibility.¹

The lessons learned from joint tactical air operations in the Solomons and subsequently in the larger Pacific theater during World War II were not forgotten during the onset of the Korean campaign, but they were put aside in the renewed clash among the various air service doctrines on command, control, and force employment. Since national and service survival were not at stake in Korea, the principle of unity of effort was subordinated to the renewed doctrinal arguments. The regressive experience in Korea can be understood only against the backdrop of two developments.

1. During the immediate postwar period and before the onset of the Korean conflict, the Air Force was established as a separate service; a bitter interservice battle ensued with the Navy over air roles and missions and the hardware needed to carry them out. Both sides waged this battle against a backdrop of a precipitous decline in the defense budget and the new role of nuclear weapons in national strategy.²
2. The urgency of the Korean campaign—the adverse effects of surprise and possible defeat—was concentrated in the first six months of the conflict. Thereafter the conflict was a stalemate on the ground. Enemy air power rarely made an appearance over the battlefield (though major air battles were fought elsewhere).

These facts combined to set the stage for conflict among the services providing tactical air forces. The bitter legacy and the stark clash of opposing doctrines in a combat setting led to three simultaneous battles. The first was the obvious one fought against the North Korean (and later the Chinese Communist) aggressor. The second battle pitted the air services against one another as each sought to apply the lessons it had learned in World War II and in the postwar interservice fracas. The final battle was one fought by the services for the ear of the theater commander, who had his own ideas about air support of the ground campaign.

THE INITIAL OPERATIONS

The Korean War started on 25 June 1950 with a massive attack by North Korean forces against an outmanned and poorly equipped South Korean security force that was little more than a constabulary. Few, if any, U.S. forces were in the country. U.S. leaders in public and private statements had made it plain that the security of South Korea was not central to U.S. regional interests. When the blow fell the U.S. military command in the Far East had no con-

¹Field, 1962, p. ix.

²The so-called "Revolt of the Admirals" and the CVA-58 controversy during the 1947–1950 period has been well documented. Even forty years later the historical record itself is a cause of controversy. For a view sympathetic to the Air Force position in this bitter dispute see Greenwood, 1978, pp. 215–244. For Navy views see U.S. Department of the Navy, 1987, pp. 19–23, and Field, 1962, pp. 28–34.

tingency plan to come to the assistance of the Republic of Korea (ROK). The attack was a strategic as well as a tactical surprise.³

A hastily organized U.S. defense effort was put in motion as South Korean defenses collapsed. U.S. air attacks (by Air Force forces based in Japan) on North Korean forces and installations were quickly mounted and a U.S. expeditionary force dispatched to Korea. By late July the U.S. and remaining ROK forces were penned in the Pusan pocket. During this period and the following two months, U.S. tactical air forces of all services as well as Air Force strategic bomber forces were employed in a desperate effort to defend the pocket and to establish conditions for a counteroffensive.

Gradually organizations and processes evolved for the control of joint air operations as U.S. forces held and started offensive operations. Separate campaigns were conducted in direct support of American ground forces, against North Korean lines of communications and installations, and against the North Korean Air Force. Air Force, Navy, Marine Corps tactical air forces, and Air Force strategic bomber forces were all involved. The "pickup" nature of the initial efforts at command and control of joint air operations had many of the hallmarks of the Midway battle and the early portion of the Solomons campaign eight years earlier.

COMMAND RELATIONSHIPS ON THE EVE OF CONFLICT

The U.S. Commander in the Far East (CINCFE) in June 1950 was General of the Army Douglas MacArthur. He also had a combined "hat" as "SCAP," Supreme Commander Allied Powers in Japan.⁴ Although joint in theory, his staff was in reality an all-Army staff that was identical to that of his Army component.⁵ Under CINCFE's command were three component commands:

1. Far East Air Forces (FEAF)
2. Naval Forces Far East (NavFE)
3. Army Forces Far East (AFFE)

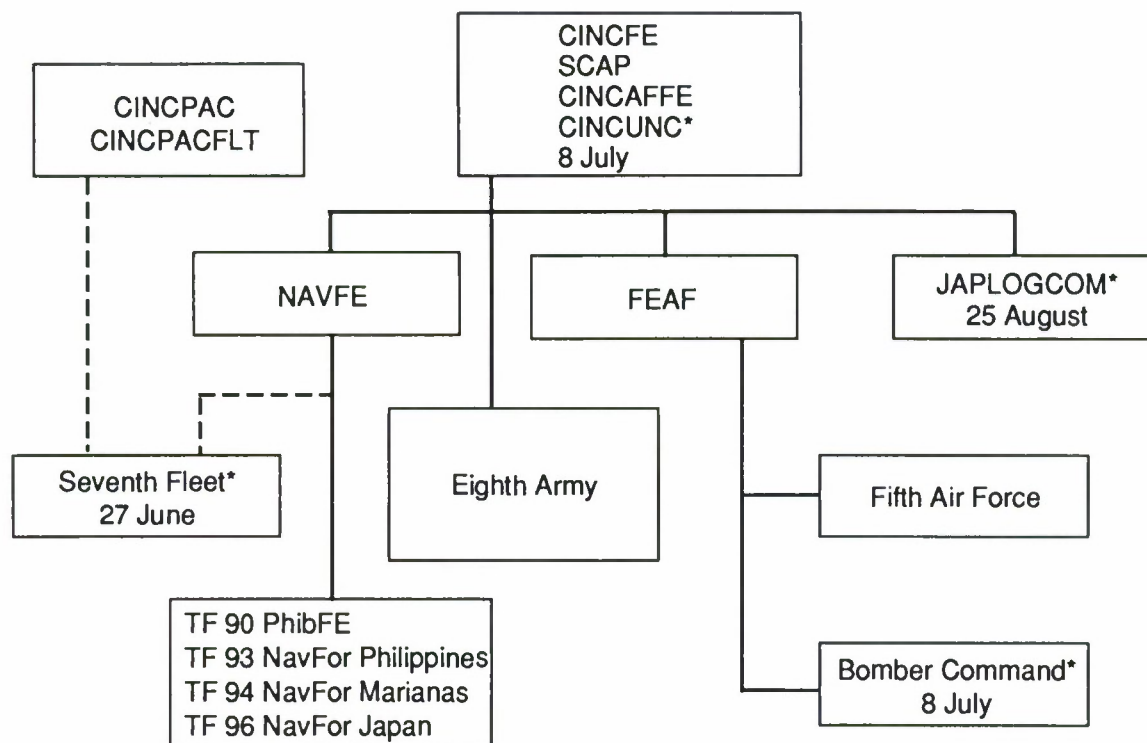
Commander FEAF, Lieutenant General George Stratemeyer, was the air component commander of CINCFE and had three numbered air forces under his command: the 5th in the main islands of Japan, the 20th in the Ryukus and Mariannas, and the 13th in the Philippines. NavFE, commanded by Vice Admiral Turner Joy, was both a naval component commander to CINCFE and the commander of the Navy element of the U.S. occupation force in Japan. In Admiral Joy's capacity as naval component commander the Commander of the Seventh Fleet reported to him.⁶ Figure 4 portrays the command arrangements in Japan and Korea during the early days of the conflict.

³Futrell, 1981, p. 24. This document is the official Air Force history of that conflict and the most complete, if not always balanced, account of the command and control problems encountered in the conduct of joint air operations. In this section we will use it extensively to sketch the history of the air war. The Navy and Marine accounts pay less attention to command and control problems and suffer from their own imbalances in perspective and historical analysis. For a more analytic treatment of command and control issues, see Momyer, 1978, pp. 52-62. Momyer presents the issues and service positions fairly, but his judgments reflect Air Force doctrine.

⁴USCINCPAC as we know it today did not exist during the Korean War. There were then two independent U.S. unified commands in the Pacific: CINCFE (General MacArthur until April 1951) and CINCPAC (the Commander in Chief of the U.S. Pacific Fleet in his joint capacity).

⁵Futrell, 1981, p. 44; Momyer, 1978, pp. 53-54.

⁶Cagle and Manson, 1957, pp. 30-33. Actually, Commander Seventh Fleet was not subordinated to ComNavFE until 27 June 1950, two days after the start of the invasion. Field, 1962, p. 43.



SOURCE: Field, 1962, p. 43.

*Commands assigned or created subsequent to commencement of Korean hostilities

Fig. 4—Far East command, June-August 1950

INITIAL COORDINATION PROBLEMS AMONG THE SERVICE COMPONENTS

Before 3 July 1950, air operations in Korea were an Air Force affair. With the start of naval air operations on that date the control of combat air operations became a coordination problem.⁷ General Stratemeyer wanted operational control over all naval land-based and carrier-based aviation when operating from Japan or over Korea. This arrangement was unsatisfactory to Admiral Joy because it implied that naval air forces might be assigned to FEAF on a continuous basis and because it overlooked the other responsibilities placed on naval forces. Admiral Joy wanted a geographic region in Korea assigned to the Navy for air attack operations. Moreover, he wanted any decision to place naval air forces under USAF operational control to be made by CINCFE, since the Seventh Fleet had responsibilities that lay outside of Korea.⁸

The different Air Force and Navy views were papered over with a compromise called "coordination control." Since this term was to bedevil later operations, some additional discussion is warranted. The implementing directive stipulating this type of control stated:

⁷There were parallel problems of CINCFE staff interference in the conduct of air operations nominally under the control of FEAF, the air component commander (Futrell, 1981, pp. 44–45), and in insistence on the use of an awkward target selection organization (pp. 50–52). Also see Momyer, 1978, p. 54.

⁸Futrell, 1981, p. 49.

When both Navy Forces, Far East, and Far East Air Forces are assigned a mission in Korea, coordination control, a Commander in Chief Far East prerogative, is delegated to Commanding General, Far East Air Forces.⁹

Unfortunately, the term "coordination control" had no agreed meaning. To Air Force staffs and commanders it conferred the authority to designate air missions and tasks in Korea to be performed by the air components of all services. In short, it precluded the Navy from conducting its own air war in Korea separately from the Air Force. To the Navy, coordination control provided a mechanism whereby FEAF could *request* (not *task*) naval air support from CINCFE or directly from ComNavFE and then arrange for mutual support and noninterference. The key element to both FEAF and NavFE was who *tasked* the Navy to provide sorties, air coverage, etc. As matters developed, the Navy accepted missions that it believed were consistent with its force posture and its other responsibilities.¹⁰ In effect the Navy was autonomous in what, when, and how much of its assets it would commit to a given mission or task in support of the other two component commands of CINCFE.¹¹

THE EMERGENCE OF THE JOINT OPERATIONS CENTER AND DIFFERENCES IN CLOSE AIR SUPPORT DOCTRINE

In early July 1950 a joint operations center (JOC) was formed in Korea. This center was intended to facilitate the coordination of air and ground operations in the theater. There were major startup problems with the center: poor communications, the absence of a joint (as opposed to a service) doctrine for the control of air operations of different services, the initial physical separation of the two major components of the center, and so on. But gradually the JOC took hold and became the focal point of ground-air coordination and eventually coordination among the tactical air forces of the different services.

The JOC initially was staffed and supported by personnel of the Fifth Air Force and Eighth Army. Its mission was to provide the tools for directing a tactical air campaign and to match requirements for air support operations with air resources available. Requirements came from several sources: the GHQ's targeting staff, FEAF, and the Eighth Army (and later the Xth Corps) in Korea. In theory the three tactical air components were to supply air resources. In practice initially, the Air Force supplied most of those resources, and the JOC was faced with the task of somehow coordinating air efforts without the authority to do so beyond the Air Force. This problem was nowhere more evident than in the problem of providing close air support, a vital task in the dark summer days of 1950 when UN ground forces had their backs to the beaches of the Pusan pocket.

The problems in close air support were both definitional and substantive. The official Navy view describes the situation.

⁹Futrell, 1981, pp. 50, 151. The directive was issued on 15 July 1950.

¹⁰See Kropf, 1990, pp. 37-38. Also see Momyer, 1978, pp. 57-59.

¹¹See Futrell, 1981, pp. 114-115 for the first example of coordination control in practice. Cagle and Manson, 1957, p. 237, provide a later example of the Navy interpretation of coordination control. In early May 1951 the Navy liaison officer at the Joint Operations Center (an organization to be discussed further below) relayed a Fifth Air Force *request* for Naval air support in interdicting North Korean rail lines on the west coast at a time when the Navy was assigned responsibility for interdicting east coast lines. After complying with the request, the Navy task force commander informed the Fifth Air Force through the Navy liaison officer at JOC that the Navy was glad to help but could not provide continuing assistance.

The semantics differences are easily described. The term "close air support" as used by the Air Force generally applies to a type of operations considered by the Marines and Navy to be "deep support." The operations considered by the Marines and Navy to be "close support" is generally not engaged in by the Air Force. Broadly speaking, the two sides of this controversy believe that each is providing close air support, neither understanding the term as used by the other.

The essential differences in concept between the two sides of this controversy are that the Air Force believes "mosquito airplanes" are competent to find the target and control attacks on those targets. Technically the request for close air support by the Army evolves from the ground forces, but the actual procedures are such that in general the "mosquito" is largely on his own.

The Marine-Navy concept on the other hand provides that front line ground troops through the medium of Tactical Air Control Parties designate the targets and control the strikes. The Marine-Navy system does not reject the employment of air observers in close air support operations. However, the Marine-Navy proponents insist that the air observer (mosquito), if used, be used only as the extension of the eyes of the forward ground controllers and under ground controller authority.¹²

The implications of these differences, whether semantic or doctrinal, were profound. But even without a Navy or Marine interface problem, the Air Force experienced considerable difficulties in interfacing with Army ground forces. Air Forces in the Far East at the onset of hostilities were built around air defense and light bomber squadrons. There were no plans that required support of Army troops in combat. Accordingly, those two services had to improvise both in hardware and in procedures as the need to provide close support to ground troops became urgent.¹³ The fact that they were able to surmount the many obstacles was a credit to both services but particularly the Air Force, which did most of the adjusting.¹⁴

Because Air Force assets were spread thin, the progress of the land battle in early July quickly placed demands on FEAF it was unable to meet with its own forces. After a confusing chain of events, including misunderstandings and failure of communication among the affected commanders, CINCFE ordered naval air forces to provide direct support to the Eighth Army on its left flank starting on 25 July. The initial operations were unsatisfactory to all services involved, in large part because of defective interservice coordination, conflicting doctrines, and poor communications. One result was that the Navy began to undertake a larger role in coordinating its air operations through the JOC.¹⁵ A complicated arrangement was agreed whereby JOC would allocate targets and missions implementing the close support policy. All other naval air operations in Korea would be coordinated with FEAF or with Fifth Air Force. The official Air Force history cautiously noted, "Early in August [1950] it seemed that adequate

¹²U.S. Department of the Navy, 1950, p. 7. The official Air Force description of the problem and its sources is similar but emphasizes the importance of the differences between Army and Marine air support requirements. See Futrell, 1981, pp. 704-708. For a sympathetic, but nonetheless critical, view of USAF close air support deficiencies, see Kropf, 1990, pp. 33-35, who also illustrates the semantics problem, noting that close air support at that time included what we "now call battlefield air interdiction."

¹³See Hallion, 1990, pp. 8-28, for an incisive analysis of the lessons learned in World Wars I and II, Korea, and Vietnam about battlefield support missions. In many respects, Hallion deals with the battlefield support issue as we are attempting to deal with the command and control issue.

¹⁴The Army was not ready to participate in the JOC when it was established. The Fifth Air Force and JOC staffs were forced to improvise to meet these and other deficiencies. Futrell, 1981, pp. 79, 107.

¹⁵Futrell, 1981, pp. 114-118. This coordination started with a visit of two naval air operations officers to the JOC, progressed to an exchange of call signs and procedures, to exchanges of messages on sortie requirements and availability, ultimately to the assignment of Navy air operations officers to JOC. The joint air operations coordinated by the JOC and under "mosquito" (forward air controller) control from 25 July through early August have many of the characteristics of the early Guadalcanal operations. That is, the survival of a U.S. ground force on a tenuous beachhead was threatened, and differences of doctrine were put aside temporarily.

arrangements had been made whereby FEAF and NavFE planes would work in harmony in Korea."¹⁶ Events were to prove that this view was more the hope than the reality.

THE MARINE CORPS ENTERS THE AIR CAMPAIGN

To compound an already complex and changing air control interface, Marine aircraft entered the battle in early August. Some specialized Marine aircraft, such as night fighters based in Japan, were immediately placed under the control of the Fifth Air Force. Most Marine combat aircraft were initially operated from small Navy carriers in direct support of Marine ground units. Those operations were guided by an arrangement different from normal JOC procedures.

While supporting the Marine brigade, the Marine airman did not report to the Joint Operations Center, but at General Partridge's request the 1st Marine Air Wing sent a liaison officer to join the Air Force combat operations section [in the JOC]. During those intervals when the Marine brigade was not in action, Marine Aircraft Group furnished its Corsair capabilities to the Joint Operations Center for the support of the entire Eighth Army battleline.¹⁷

This system appeared to preserve operational flexibility of the supporting carriers (e.g., freedom of tactical movement), responsiveness of Marine air to Marine ground units, and best utilization of scarce assets. Air Force and Marine addressing of the command and control and doctrinal issues during the Korean War was less a subject of controversy at the time than the corresponding interface between the Air Force and the Navy. The Marine sensitivity was based on insuring that Marine air assets were available to the ground Marines when they needed them. Air Force officers were willing to accommodate these views.¹⁸ This Marine sensitivity became more visible during the planning for the Inchon landing.

INCHON

In many respects the landing at Inchon was an autonomous operation with the X Corps (which included the 1st Marine Division as its principal landing element) operating independently of the Eighth Army as Joint Task Force Seven, as shown in Fig. 5. Under this arrangement carrier air forces and the 1st Marine Air Wing provided air support independent of the Fifth Air Force control and coordination.¹⁹ While simple in concept this plan ran into opposition from General Stratemeyer, who objected to several points in the invasion plan's air annex. His most important objection was that it appeared to compromise his authority and responsibility for the overall air campaign in Korea because it gave NavFE the task of neutralizing all airfields within 150 miles of Inchon, clearly far beyond the limits of the amphibious objective area. General MacArthur smoothed over this disagreement by confirming FEAF's coordination control authority when Navy and Marine air units were no longer performing naval missions including amphibious operations.²⁰

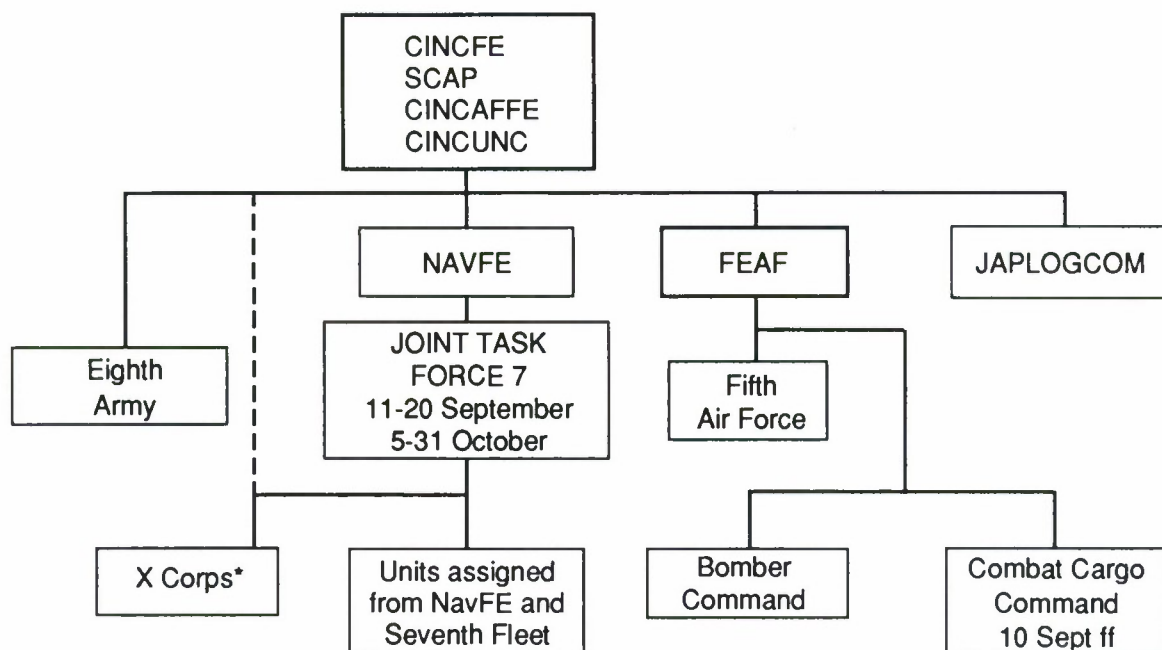
¹⁶Futrell, 1981, pp. 118-119.

¹⁷Futrell, 1981, p. 121

¹⁸Nevertheless the favorable publicity given the Marine system of close air support rankled many Air Force officers, who felt that the air Marines enjoyed structural and geographic advantages in Korea that were close to unique and not a basis for changes in USAF doctrine. Futrell, 1981, p. 123. See also Kropf, 1990, p. 36.

¹⁹But FEAF was to provide transport aircraft to airdrop the 187th Airborne Regimental Combat Team, airfield support personnel at Kimpo Airfield (and later at Suwon), and general air support (to isolate the objective area).

²⁰Futrell, 1981, pp. 151-152.



SOURCE: Field, 1962, p. 174.

*When Commanding General assumes command ashore, X Corps reverts to the direct control of CINCFE and Joint Task Force 7 is dissolved.

Fig. 5—Far East command organization, Inchon and Wonsan landings

With this preliminary skirmishing out of the way, the daring landing went as scheduled. Apparently there were no air control difficulties or command authority problems worth recording.²¹ But one of the “lessons” of the Inchon landing that was to cause later difficulty was the notion that somehow the system of assigning dedicated air forces to a specific ground commander conferred advantages that outweighed the disadvantages. In subsequent X Corps operations on the east coast of Korea, Marine and Navy air were again dedicated to its support in the aftermath of the Chinese intervention.²²

INTEGRATION OF STRATEGIC AND TACTICAL AIR OPERATIONS

The clash of doctrine and circumstance is nowhere more evident than in the employment of strategic bomber forces during the early part of the Korean war. In many ways the Midway and Solomons experience was repeated. Much of the Air Force was structured and equipped to conduct an independent air campaign. Doctrine called for attacking enemy war making potential, lines of communications, and military targets at some remove from the ground battle. Hardware

²¹The praise in Navy accounts is not surprising (Cagle and Manson, 1957, pp. 104–105). The absence of criticism in the USAF Official History (critical of many other aspects of joint air operations in Korea) is noteworthy. Futrell, 1981, pp. 158–161.

²²See Futrell, 1981, p. 255, for a description of how General Partridge handled this situation, and pp. 706–707 for an Air Force criticism of the general concept. For a rebuttal see Cagle and Manson, 1957, pp. 170–178, 191–192.

in the form of heavy bombers was the tangible evidence of this doctrine. As effective as this doctrine might have been in other times and other places, it did not fit the circumstances facing the U.S. forces in the Far East in the summer of 1950. To help retrieve a grave ground situation strategic bomber forces were thrown into the breach to perform tactical support missions for which they were not organized, equipped, or trained. Not surprisingly the results were unsatisfactory to all concerned.²³

Shortly after the start of the war, General Stratemeyer set up "Bomber Command" for the heavy bombers; it was distinct from the Fifth Air Force, which conducted the tactical support operations. When Bomber Command flew missions in direct support of the Eighth Army, JOC controlled its operations. Thus, in some ways Bomber Command was an independent air force, much as the Navy and Marine air forces were, but with the advantage that it was commanded by and subordinate to officers of the same service.²⁴

Bomber Command's best contribution to immediate ground operations was in isolating the battlefield from enemy reinforcements and in interdicting the retreat of enemy units in flight. Its larger contribution was in deep interdiction and in successfully attacking major North Korean installations and communications that were distant from the ground battle.

THE MATURATION OF THE JOINT AIR CONTROL SYSTEM

The joint air control system rapidly matured under the pressure of the massive Chinese intervention in November 1950, the UN response to it, and the transition to stalemate on the ground. Perhaps the best evidence of that maturity was the evolution of the JOC from a flawed single service (USAF) organization in early July 1950 to a functioning multiservice organization by the spring of 1951, and finally to a fully joint organization by 1953.

The Air Force deserves great credit for establishing the JOC early in the campaign and for singlemindedly pursuing the objective of establishing a clearing house and tactical air mission tasking organization to broker requirements and resources. Initially, it was an all Air Force organization because the Army was not organized, staffed, and equipped to provide its component to the JOC. These problems were not fully resolved until the spring of 1951.²⁵

In early August, the Navy assigned a permanent liaison officer to the JOC. His function was to relay JOC mission requirements to Command Task Force 77 and to inform JOC of TF 77 sortie availability. He was ordered to make "coordination control" work to the satisfaction of the Commanding General of the Fifth Air Force and Commander Task Force 77 (the carrier

²³Futrell, 1981, pp. 138-139, 162. Even when attacks by heavy bombers on close support targets were pronounced successful, the measure of success seems to have been whether the bombs were placed on target areas on time and with accuracy, not the degree of damage done to the enemy. Hallion, 1990, p. 13, in his analysis looking across all major 20th century conflicts, asserts: "With rare exception, the strategic bomber has been of minimal value in battlefield air support."

²⁴For a more detailed description of how Bomber Command's operations were coordinated with those of the Fifth Air Force, see Momyer, 1978, pp. 56-57.

²⁵Futrell, 1981, pp. 61, 79, 107. In a sense the Army component of the JOC represented the "demand side," of the joint air support and operations problem. In the absence of an Army component during the early days of JOC, Air Force liaison officers had to ferret out Army support needs and relay them to JOC. The Army tended to focus its air liaison efforts at the corps and division and not at the theater or Army level represented by JOC. Although this report emphasizes joint air operations and the interfaces among the three air services, it is well to remember that the Air Force also experienced major coordination and control problems with the Army. This problem continued and was greatly magnified in Vietnam by the employment of large numbers of army helicopters.

force commander). It was a difficult job under the best of circumstances, and communications difficulties did little to make it easier.²⁶ The procedures were as follows.

By noon each day Task Force 77's air schedule for the succeeding day was passed to the Joint Operations Center. Knowing the numbers of aircraft scheduled and the times over targets, the Joint Operations Center requested the assignment of some aircraft to predesignated tactical air control parties and others to related missions, such as armed reconnaissance sweeps over certain road nets. . . . The senior naval officer in the Joint Operations Center had no authority to commit Task Force 77 to a desired action; instead he passed requests to the fleet.²⁷

These procedures remained in effect until the last two months of the war when Commanding General Fifth Air Force and Commander Seventh Fleet implemented new and tighter procedures. In late June 1953 they agreed that the Navy would establish

a naval member in the Joint Operations Center whose powers were similar to those of the Fifth Air Force's director of operations. The naval member was specifically charged to select targets for naval aircraft in support of the Eighth Army, and he was directed to ensure an effective coordination of naval air with the operations of the Fifth Air Force.²⁸

The coordination routines followed those already agreed to between the Air Force and the Marine Corps (and described below). It had taken three years of often uncoordinated combat operations to bring about this result.

As indicated earlier, once one got past the doctrinal differences between the Marine Corps and the Air Force on the subject of close air support, the interface between the two services proved more harmonious than the interface between the Air Force and the Navy. To quote from the official Air Force history:

Operating as it did from South Korean airfields, the 1st Marine Air Wing's operations were smoothly and effectively integrated into the control system. Although the Fifth Air Force possessed "coordination control" over the land-based Marine airmen, General Partridge recognized that the 1st Marine Air Wing was actually an air task force, capable of independent action and needed to maintain that capability. General Partridge therefore allowed the Marine air wing considerable latitude for planning and ordering its air operations. Almost always the Fifth Air Force assigned tasks to the Marine air wing through its commander. Each morning the Marine air wing forwarded its capabilities and intentions for the next day to its liaison officer at Taegu [JOC]. At the Fifth Air Force planning conference the Marine Liaison officer submitted these planned operations, and at this time Marine wing intentions were approved or altered to conform to the over-all tactical air plan. Later in the afternoon Marine orders for the following day were published as a Marine annex to the Fifth Air Force fragmentary operations order. . . . In order to maintain their primary specialty, the Marine airmen customarily used most of their sorties for the support of ground troops.²⁹

UNITY OF COMMAND

Korea represented a regression in the effective command and control of joint air operations. In no area was this regression more apparent than in the unity of command. Unlike the

²⁶Both Navy and Air Force accounts refer to the difference in service operational philosophies and doctrines represented by their respective communications systems. The Navy, sensitive to operational security and masking the position of its carrier task forces, was equipped and conditioned to minimal radio message traffic to conduct operations and was often swamped with the large number of long messages the Air Force believed were necessary to properly control and coordinate air operations. See Futrell, 1981, p. 49, and Field, 1962, pp. 387-388.

²⁷Futrell, 1981, pp. 342-343.

²⁸Futrell, 1981, pp. 676-677.

²⁹Futrell, 1981, p. 342. The official Marine history corroborates that "Despite the weak links initially inherent in such a situation, the command structure did work." Meid and Yingling, 1972, p. 492.

Solomons experience where unity of command and of purpose was the order of the day and the campaign, in Korea there was continuing confusion and antagonism among the air services (particularly between the Navy and the Air Force) over control of air assets. These differences were never completely resolved, they were only muted by combat necessity or the modicum of trust built up over three years of shared experience.

Command unity was fractured along several planes.

1. *Confusing and overlapping authorities designated targets and allocated air assets early in the war.* CINCFE's staff interfered shamelessly in the details of target selection and assignment of forces that were more properly the purview of FEAF and Fifth Air Force. This was not political meddling, but meddling based on insufficient knowledge of the employment of air power. It grew from the fact that the CINC's staff was not truly joint in its service representation.
2. *The only places the naval air and USAF tactical and strategic air command echelons came together was at the CINC level.* The Navy insisted through much of the war that *directives* affecting naval operations had to come from the CINC. This mode of operation, supported by the CINC, gave the Navy the freedom to coordinate on its own terms. With the lack of an organizational incentive to cooperate, the Navy cooperated most fully only when the combat situation dictated, in their judgment. The Air Force attempted to gain control of naval air assets without full appreciation of the special requirements of naval operations and the Navy's other commitments. For its part the Navy constantly tried to carve out an independent role (based on geographic demarcation lines) in the air campaign with only the most impatient and less than forthcoming efforts at coordination.³⁰ The result was frequent mismanagement of the totality of national tactical air assets that in another era might have meant defeat or scandal.
3. *In setting up the Xth Corps with its own air component (the First Marine Air Wing) for the Inchon invasion and later the campaign in northeastern Korea in the fall of 1950, CINCFE split command of tactical air forces in yet another dimension.* Fifth Air Force as the responsible commander with coordination control authority did not have the reality of such control over theater naval air assets, nor did he have control over a portion of his normally assigned land-based air assets.³¹

In summary, unity of command was not the hallmark of tactical air operations in Korea in 1950–1953. This situation was the result of residual suspicions arising from a poisonous prewar feud among the services, a CINC whose staff did not understand joint air operations because it was itself not a joint staff, and by a somewhat stiff-necked Air Force insistence on other services' compliance with its doctrine and an equally stiff-necked Navy insistence on freedom to conduct its own operations as it saw fit. *This experience suggests that unity of effort, or at the least full coordination among commands, only comes when combat necessity dictates it or when shared experience over time brings common sense to bear on service differences.* Unfortunately for the United States this lesson appears to be put aside in peacetime only to be releared in later wars.

³⁰See Field, 1962, pp. 110–111, 116, 142–143 for examples of less than forthcoming Navy support.

³¹While this split of control may have been doctrinally unsound by Air Force standards, it is difficult to find solid evidence that it led to inefficient or ineffective application of available tactical air power. Even the Air Force official account recognizes that these may have been special cases. Futrell, 1981, pp. 149–152, 212–213, 255. For the Marine view, see Meid and Yingling, 1972, pp. 487–488.

JOINT ATTACK AND DEFENSE PLANNING

Joint planning suffered from the imperfect nature of the command structure just described. In this discussion of joint planning of tactical air operations we are particularly interested in those instances when multiservice planning occurred.

Before 25 June 1950 there was no truly joint planning mechanism for U.S. tactical air operations in the Pacific East Asia region. Moreover, there were no joint—or indeed any single service—plans for the defense of Korea. FEAF was concerned with the air defense of Japan. Its efforts before the war to develop procedures and organizations for coordination of its operations with the Army forces in the Far East were largely fruitless.³²

Most early joint actions were of a pickup nature wherein planning was little more than making sorties available either to JOC (the subsequent control of the sorties often then being handed off to mosquito aircraft) or in some cases to Marine tactical air control parties all in support of ground operations. Both the Air Force and the Navy early in the conflict attempted to conduct their own bombing campaigns independent of the ebb and flow of ground operations. The Air Force believed its forces could be used more effectively when applied to the strategic or interdiction role rather than in direct support of ground operations.³³ The Navy wanted to conduct its own interdiction bombing campaign free from Air Force control. Only the Marines had no larger ambitions than supporting their own or Army ground forces.

The earliest example of joint Air Force Navy operational planning occurred on 23–25 July 1950 when an emergency plea for help from the Eighth Army staff resulted in General MacArthur's directing Task Force 77 to provide close support of engaged ground forces. Believing that Fifth Air Force was aware of the request, FEAF agreed with CINCFE's decision to designate a geographic area in Southwest Korea for Navy support operations. This plan did not work well both because of a lack of target intelligence and because the incoming Navy attacks were not coordinated with either ground tactical air control parties or with mosquito aircraft.³⁴ This penchant for staking out subregions for the exclusive use of the aircraft of one service (e.g., the Navy) or one organization within a service (e.g., FEAF Bomber Command or Fifth Air Force) was to be a frequent characteristic of air operations throughout the Korean war.³⁵ It seldom worked well because there were many times when the urgency of the target, service-specific hardware limitations, or sortie availability were such that one service could not do the job by itself. All that such partitioning did was to compensate for the absence of joint service procedures and plans for the effective utilization of the air power within the theater.

A case of more deliberate joint planning and tasking of air operations occurred on 3 August 1950 when the Navy agreed to accept the task of attacking a bridge complex in Seoul after a failure of earlier USAF efforts. This agreement was then expanded to get the Navy more involved in the entire interdiction campaign. The detailed arrangements to insure that the various commands (e.g., FEAF, Seventh Fleet, Fifth Air Force, and Bomber Command) did not get in each other's way in jointly bombing the same target set can only be understood in terms of doctrinal and organizational sensitivities, not on the basis of combat necessity.³⁶ As it turned out, the interdiction plan was flawed because of poor target intelligence. The Navy

³²Futrell, 1981, pp. 58–61.

³³Futrell, 1981, p. 125. Navy commanders held similar views. See Field, 1962, pp. 141, 144, 166.

³⁴Futrell, 1981, pp. 118–119.

³⁵Futrell, 1981, p. 126, contains a description of how FEAF delineated target responsibilities geographically between Fifth Air Force and Bomber command.

³⁶For an unintentionally humorous description of these arrangements see Futrell, 1981, pp. 126–128.

soon returned to conducting its own interdiction campaign with only the sketchiest coordination with the ongoing Air Force campaign.³⁷

The planning for the Inchon landing was joint in that there was full participation by the staffs of all services—except in development of the air annex to the operations order. This annex presumed a role for Navy and Marine aircraft that FEAF believed violated previous agreements providing for “coordination control” authority residing in Air Force Commanders. Moreover, CINCFEAF believed the intended scope of Navy-Marine operations in support of the landings exceeded their capabilities.³⁸ This dispute about how air control issues were to be handled in plans illustrated two continuing characteristics of air planning in the Korean War: Air Force sensitivity about any encroachment on what it saw as its preeminent role in controlling tactical air operations, and a Navy penchant for either presenting a fait accompli to its liking or planning and operating on its own when it encountered operational obstacles it attributed to Air Force practices. As at Midway, Inchon was a success, but it was a success in spite of poor joint air employment planning.

The best that can be said for joint planning of tactical air operations for most of the Korean War is that it represented an amalgam of good service-specific planning. The Air Force most clearly saw the need for joint planning but insisted that it be conducted on its own terms. The Air Force would grant concessions to accommodate Navy and Marine requirements and limitations, but usually only after those two services had submitted to coordination control. In war a general or admiral never has enough forces, but the Korean War in retrospect was characterized by an abundance of air power. The problems were in finding suitable targets and employing the air weapon effectively and efficiently when the forces of more than one service were involved in the planning and operations.

OPERATIONS AND EXECUTION DECISIONS

Once a joint air environment was created (unity of command and joint planning), the execution decisions associated with joint air operations were generally excellent. Several instances on the plus side stand out.

- Fifth Air Force’s decisions to rapidly establish the JOC and keep its work in harmony with the mission of supporting the Eighth Army during the summer of 1950.
- The Navy-Marine decision to split Marine units, putting night fighters ashore in Japan under Air Force operational control and moving fighter-bomber units aboard jeep carriers to provide direct support to ground operations in southwest Korea in August and September 1950.
- Fifth Air Force’s decisions to subordinate air control turf concerns to providing effective air support to cover Xth Corps’ withdrawal to Hungnam in November 1950. Fifth Air Force operations complemented Marine and Navy air support and provided unique capabilities those services did not possess.
- The interleaving of attacks by Bomber Command and TF 77 aircraft on the Seoul bridges on 19–20 August 1950. The attacks were so closely coordinated and effective that it is not clear which service’s bombs dropped the key spans.

³⁷On 15 December 1950 “FEAF formally instituted Interdiction Campaign No. 4,” which allotted three interdiction zones in Northeast Korea to the Navy. Futrell, 1981, p. 261.

³⁸Futrell, 1981, pp. 151–152.

- The marshaling of tactical air assets of all services in defense of the Pusan pocket during late August and early September 1950. Fifth Air Force coordinated the effort, but all services compromised doctrine and preferred employment of their forces to make sorties available to the beleaguered Allied ground forces. The result was not pretty, but it was effective.
- The “Operation Pressure Pump” strikes on Pyongyang on 11 July 1952. Aircraft from the three services plus British Carrier and ROKAF aircraft pounded Pyongyang all day long in successive strikes that saw some mission allocation among the services—e.g., Navy flak suppression followed by Air Force fighter bombers.

On the minus side some poor execution decisions were the result of misunderstandings among the services about the limitations of hardware and procedures of the other services. The early target intelligence problems and meddling in target priorities and force allocation by the CINCFE staff represented another class of execution problems. Once the crises of the summer and fall of 1950 were past, there was a tendency to divert air resources to interdiction missions and to air to air missions over the Yalu at the expense of supporting ground force operations. The dilemma was one posed by the *urgent expediency* of saving U.S. ground forces by using air forces in unaccustomed roles rather than the *efficient use of airpower* by going after the enemy’s lines of communications. The Air Force, and to some degree the Navy, had to be prompted continually about the priority of the immediate needs of the ground campaign over the more problematic benefits of the longer term air interdiction campaign.³⁹

TRAINING, HARDWARE, AND EMPLOYMENT INCOMPATIBILITY

In this discussion about incompatibilities in the training, hardware, and force employment practices among the services we eschew a description of the general comparative strengths and shortcomings of sea- and ground-based tactical and strategic air forces. Forces of these diverse types are necessary and they have their limitations when the force of circumstance requires that they work together.

Close Air Support

The incompatibility of the close air support doctrines of the Air Force and the Navy-Marine Corps during the Korean War have already been described.⁴⁰ This fundamental difference had its roots in different conceptions of the proper role of air power, different training and equipment that flowed from those conceptions, and different employment practices that were shaped by the capabilities and limitations of the equipment and air crews available.

³⁹The efficacy of the bombing campaign and its contribution to whatever success the United Nations forces enjoyed in Korea has been a matter of some dispute. Understandably the Air Force official view was that air attack made the difference between losing and achieving the eventual stalemate. For the Air Force view see Futrell, 1981, pp. 689–708. For the skepticism of the Navy view see U.S. Department of the Navy, 1950, pp. 6–7. The authors agree with Hallion’s (1990) observation (p. 14): “‘Classic’ air interdiction has proven disappointing and of less significance than either BAI or CAS; its impact upon battlefield operations is questionable, particularly when it is not synchronized with ground maneuver warfare.” We would add that air interdiction is most effective when the enemy depends on a modern transportation network, a situation not experienced in Korea, 1950–1953.

⁴⁰For a review of the issues and service positions see Futrell, 1981, pp. 704–706; Kropf, 1990, pp. 33–35; Hallion, 1986, pp. 41–46; U.S. Department of the Navy, 1950, p. 7.

Communications Philosophies

A more subtle incompatibility between the services lay in their different command, control, and, particularly, communications philosophies. These differences profoundly affected the early feasibility of joint air operations during the Korean War. Let us examine the service views of the problem with two extended quotes. The Air Force first:

The inability of Navy forces in the Far East to communicate freely and fully with Army and Air Force commands would long continue to be a major interservice problem. In large measure the difficulty was attributable to the fact that the Navy had a different communications philosophy. Naval forces afloat were traditionally closely-knit organizations which generally operated in accordance with pre-briefed orders. Because of their physical characteristics, moreover, naval vessels had only a limited amount of space which could be given to communications equipment. Because of requirements and capabilities, the Navy made its electronics messages as brief as possible. On the other hand, the Army and Air Force used more elaborate communications systems designed to handle a large volume of message traffic and habitually passed what the Navy called "correspondence" by electronic means. As a result of the difference in philosophy and capability, Navy forces off Korea were unable to receive or dispatch the many long encrypted messages required by the local combat situation.⁴¹

The Navy view, while in agreement on the facts of this statement, saw the problem more one of balance in emphasis than in shortcomings in its own communications system.

The divergent histories of Air Force and naval aviation had by 1950 produced very different patterns in training, equipment, and control mechanisms. The geography of the plains of North Africa and Europe and the ideology of independent air power had made that "inherent flexibility" of which enthusiasts prate a macro-flexibility. For the conduct of the air campaign, control was centralized at the highest possible level and preplanned operations were the rule, with the result that while a large effort could be switched from day to day along an extensive battle front, control at the target had been neglected. From this structure had developed a communications system with large capacity for routine transmission of orders and reports between central command post and operating bases, but with limited provision for tactical communication at the scene of action.

The Navy and Marines, by contrast, accustomed to attacks against such easily defined targets as fleets and airbases, and to operations within the constricted beachhead, tended to rely on doctrine supplemented by brief orders, and on delegation of control to those on the spot. Provision of tactical aviation in ground warfare was looked upon as a service to the forces involved rather than as part of a separately controlled campaign. . . . The consequence was a command communications system of high reliability but comparatively small capacity . . . but balanced by an emphasis on discrimination at the objective expressed in liberal provision of ground controllers and in the design of tactical communications equipment. As compared to the four VHF channels in the radios of Air Force fighter-bombers, the sets in naval and Marine aircraft had ten.

The incompatibility of these systems was forcefully demonstrated in Korea. As in the Southwest Pacific in the war against Japan, Air Force verbosity in communications swamped the less capacious naval circuits, and indeed, at times FEAF's own. . . . Contrariwise, scene of action requirements for precise and deliberate control of aircraft in situations tightly packed in the air and fluid on the ground went far beyond the capacity of Air Force tactical communications. Both services, in a sense, were right in this matter, and both wrong.⁴²

A good example of the effect of these communications shortcomings on both sides is the way the launch cycling of strikes from TF 77 caused air and radio traffic congestion in the objective area on occasion.

⁴¹Futrell, 1981, p. 49.

⁴²Field, 1962, p. 387. See also U.S. Department of the Navy, 1950, pp. 5-6.

Launch Cycling

A characteristic of carrier operations is the employment of large flight groupings or “strikes”—as many as 40 or 50 aircraft on occasion. Because the carrier has to turn into the wind to launch and recover aircraft, it conducts “cyclic operations,” or periodic launches and recoveries every 90–120 minutes. The carrier (and its escorts) then turn out of the wind to continue movement to a new location, to conduct evasive maneuvers, or simply to choose a course that provides a more stable and hospitable platform for maintaining aircraft on deck. Although this cyclic operation usually fits well into attack schemes by providing mass at the target, it is less suitable for operations that require a smaller number of aircraft over the target *continuously over a longer period of time*. Continuity of operations was more characteristic of close air support requirements during the Korean war. The combination of cyclic operations, large numbers of aircraft on station, and the limited number of forward air controllers and usable control frequencies often combined to saturate air control capabilities at the target.⁴³

This dilemma was often compounded by the arrival of short-legged Air Force aircraft in the control area that needed immediate target assignments, thereby bumping waiting Navy aircraft. A corollary was the arrival of a large number of carrier aircraft in the control area after they had travelled a long distance from the carrier and needed quick weapons delivery and release to return to the carrier. The Air Force attempted to accommodate such problems by staggering its launches to fit with the Navy strikes, but the results were usually an unhappy compromise. Poor ship to shore communications and limited tactical radio frequencies alluded to above did little to improve the situation.

Joint Operations

At various points in our discussion of the Korean War we have described occasions when truly joint air operations were conducted. In some cases they were done well. A good example is the 25 August 1950 B-29 raid on the port of Rashin. This raid in the far northeast corner of Korea, and beyond the practicable range of USAF fighters based in Korea, was escorted by a large body of Navy fighters without incident and apparently with good coordination.⁴⁴ Marine night fighters escorting B-29s on night missions over North Korea conducted similar joint operations.⁴⁵

The official Air Force history of the war frequently refers to the carriers not being available for operations because of their necessity to refuel or rearm, bad weather and icy decks, or being sent off on other missions outside of Fifth Air Force coordination control.⁴⁶ The same history also refers to the North Korean Army overrunning airfields in the South and forcing the return of USAF squadrons to Japanese bases, the necessity to build bases from scratch in Korea, the long distances covered by and the light loads carried by USAF fighter bombers.⁴⁷ We would call the honors for each service about even. The Air Force got into action first and laid the framework for the needed air control environment, but the Navy-Marine Corps units arrived with the most suitable aircraft for close air support and a workable air control system to employ them.

⁴³Futrell, 1981, pp. 122–123; Field, 1962, p. 390.

⁴⁴Hallion, 1986, pp. 124–125. Also see p. 136 for a description of a similar raid. See Futrell, 1981, pp. 530–531, for a later strike in which B-29s provided flak suppression for follow-on waves of Navy dive bombers.

⁴⁵Futrell, 1981, pp. 614–615.

⁴⁶Futrell, 1981, pp. 122, 143–144, 151, 280, 364.

⁴⁷Futrell, 1981, pp. 59, 65, 87, 109–110.

OVERALL EVALUATION

Korea was a painful lesson on the clash of doctrine with the urgency of combat reality, the downstream costs of interservice conflict, the expense in blood of budget "savings" extracted from peacetime defense budgets, and the failure of peacetime and wartime command to deal adequately with the requirements for truly effective joint operations. The major "lessons" of the Korean war for the leaders of U.S. tactical air forces were:

1. The need for a JOC, or something like it, to broker requirements and resources in a tactical air campaign.
2. The need for joint training, planning, and doctrine *in peacetime*.
3. The importance of flexibility in hardware, tactics, and command and control modalities, particularly in communications.
4. The problematic suitability of strategic bombers for tactical air operations.
5. The continuing utility of so-called obsolete hardware when facing an enemy with less than modern forces.
6. The importance of the personal involvement of senior commanders in resolving interservice issues or in narrowing the differences between them.

We would give organizational laurels to Marine Corps aviation for being best prepared to fight the war that developed and for best adjusting to the needs for an effective joint command and control organization. The award for best commander goes to Lieutenant General Earle Partridge, USAF, for his decisive action in bringing air power to bear in Korea during the first days of the fighting and for his willingness to subordinate USAF doctrine and organizational prerogatives to combat necessity—during both the tense days of July and August 1950 and the retreat from North Korea in the fall of that year. Although a partisan Air Force leader, he was also a fighter who put his country and his mission before his service.

But the occasional exceptional leader is not enough. The official Air Force history (in evaluating the joint experience in Korea) reads more like a summary of treaty negotiations between uneasy allies than it does between sister services facing a mortal enemy.

Directed to work cooperatively through the Joint Operations Center in Korea in order to maintain surveillance and continued neutralization of the North Korean hydroelectric plants, the Fifth Air Force and Seventh Fleet established such harmonious relations by August 1952 that General Weyland authorized General Barcus to request naval air strikes when he required naval assistance for a particular operation. At the same time, however, FEAF reserved the right to negotiate for assistance from the Naval Forces Far East when such was advisable. In the last week of the Korean hostilities, after the Seventh Fleet agreed to participate integrally in the Joint operations Center in Korea, the Fifth Air Force suggested that a Navy airman might well be included in the membership of the FEAF Formal Target Committee. Since he possessed no operational control over naval air units, General Weyland, reasoned that he could not order a naval air officer to attend the FEAF Formal Target Committee meetings. Nevertheless, General Weyland reasoned that FEAF did possess "coordination control" over air operations in Korea and that Navy representation on the FEAF Formal Target Committee would be highly desirable. General Weyland, accordingly directed the Fifth Air Force to invite a Navy member of the Joint Operations Center to attend the meetings of the FEAF Formal Target Committee. In the last year of the Korean hostilities the Far East Air Forces and the Naval Forces Far East worked together well for the accomplishment of a common air strategy, but this "team play" came from the fortunate personalities of the commanders concerned rather than from the more stable dictates of command authority and organization.⁴⁸

⁴⁸Futrell, 1981, pp. 492-493.

In August 1953, 12 days after signing the Korean armistice, an interservice board met to review the air ground force employment experience. Although there was substantial agreement on the sources of the problems encountered and some of their solutions, the board quickly descended into disagreement. The sources of the disagreement were centered on the divergent views of the services as to the success of the methods used in Korea to control tactical air forces. The Air Force believed tactical air operations in Korea were a success and possibly decisive. The other services believed otherwise. The official naval historian writing some nine years after the event and on the eve of the Vietnam war stated: "In any event there is still no joint doctrine."⁴⁹

⁴⁹Field, 1968, p. 394.

VI. VIETNAM 1965–1968: REGRESSION AND PROGRESS¹

Issues arose from doctrinal differences between the Army and the Air Force, as well as from different perceptions each service held of its roles and missions, not only in Vietnam, but in the broader arena of national security as well. Each service applied the principle of unity of command differently. . . .

Out of these differing views, two separate systems for controlling aircraft were growing up: a tactical air control system (TACS), which directed Air Force and VNAF operations, and an air-ground system, which controlled Army and Marine aviation from each of the four corps tactical zone headquarters. . . . A unified tactical control system was not in place at the beginning of 1965.²

We agree with this appraisal and suggest that the services and joint commanders had learned little from the Korean experience to enhance joint air operations. Indeed, we would go further and state our judgment that during the early years of U.S. military involvement in Vietnam (here defined as 1965–1968) the command and control of tactical air operations was unsatisfactory and in the face of a capable air opponent would have been a disaster. The services carried forward their own mostly unchanged tactical air doctrines to the new conflict. No joint doctrine had been developed in the intervening years.³ Moreover, new difficulties emerged to bedevil tactical air operations. Not only were past mistakes repeated, but new challenges resulted in new mistakes. Consequently, no unity of effort was achieved. Only the passage of time and the possibility of failure on the ground retrieved the situation enough to warrant use of the term “progress” by the end of the period examined here. Before discussing how command and control of tactical air forces was exercised during the early years of the Vietnam conflict, we need to define the scope of our inquiry and sketch out a brief history of our subject.

AN OVERVIEW

Our inquiry is confined to the years between 1965, when major U.S. forces entered Vietnam, and 1968, which saw the Tet Offensive and the defense of Khe Sanh.⁴ It was during this three-year period that the modalities of controlling tactical air operations saw the greatest change. Our topic covers air operations conducted within Vietnam, as well as those conducted over North Vietnam, Laos, and Cambodia. Our emphasis is on Navy, Marine, and Air Force tactical air forces, but we also briefly examine their interface with “in-country” Vietnam helicopter and Strategic Air Command operations.

The campaigns described in this section commenced with the U.S. response to attacks on U.S. personnel at Pleiku on 7 February 1965. At that time the U.S. air assets in South Vietnam consisted of several Air Force B-57 and F-100 squadrons rotating in and out of Bien Hoa

¹Several sources contributed to the discussion in this section. See for example Mommyer, 1978; Cagle, 1972; Schlight, 1988; Simmons, 1968, 1969 and 1970; Littauer et al., 1971; and McCutcheon, 1985.

²Schlight, 1988, p. 11.

³One knowledgeable participant in tactical air operations in Vietnam points out that USCINCPAC took some inconclusive steps toward joint air command and control in the early 1960s, but their effect was merely to enshrine the “coordinating authority” concept used in Korea. See McCutcheon, 1985, p. 273.

⁴The official Air Force history of the war in South Vietnam during the years between 1964 and 1968 calls the earlier years “the advisory years.” Schlight, 1988, p. 1.

and Danang, some miscellaneous USAF "air commando" units, and some Marine helicopter squadrons deployed in the I Corps area. The buildup started in earnest with the first Marine ground forces landing on 8 March at Danang.

The initial Air Force buildup was balanced between putting tactical fighters in Thailand and Danang in April 1965. Marine tactical fighters also arrived at Danang in April. The first joint Navy-Marine-Air Force operations occurred at Danang in mid-April with attacks on enemy troop concentrations threatening the airfield.⁵ On 20 April during a high-level meeting of the Secretary of Defense and top regional military commanders in Hawaii air priorities were set for most of the remainder of the war. In-country operations in support of U.S. and allied ground forces were to have priority over strikes into North Vietnam and Laos. According to the USAF official history:

For the Air Force, this meant two things. First, the Air Force was now being called on to perform a tactical mission of close air support for which two decades of doctrine, force procurement, and training had ill-prepared it. While continuing to maintain its worldwide strategic posture, which had claimed most of its attention since World War II, the Air Force was now directed to support a ground war. The story of the next three years is largely one of adaptation to this alien environment. Second, the need for close interservice cooperation would be more critical than ever before if this joint venture were to succeed. The rapid march of events in Vietnam in the spring of 1965, however, was outpacing the development of joint practices to guide them. . . . Many months of debate, experimentation, and, at times acrimony lay ahead before the beginnings of joint action would emerge to match the new joint strategy.⁶

Clearly the clash of doctrine and service preference would again determine the shape and operation of tactical air command arrangements. And, in an eerie reprise of the Korean experience, senior command echelons again intruded—often decisively—in shaping those arrangements. Air Force leaders commanding PACAF, Thirteenth Air Force, and 2d Air Division (the latter the principal initial air commander in Vietnam) in effect fought six command and control battles: (1) with USCINCPAC and USMACV over mission priorities, command arrangements, and resource allocations; (2) with the Army and Marines over control of helicopter operations and mission priorities; (3) with the Marines over the control of USMC fighter-attack aircraft operations in the theater; (4) with SAC over control of strategic bomber operations; (5) with the national command authorities, USCINCPAC, and COMUSMACV over priorities of attacks on North and in South Vietnam; and (6) to a much lesser degree, with the Navy over coordinating attacks in South Vietnam and on North Vietnam. Although these conflicts appeared principally to affect "unity of command" considerations, they spilled over into the quality of planning and operations.

TOP-LEVEL COMMAND ARRANGEMENTS IN THEATER⁷

COMUSMACV was set up in 1962 as a subunified command to provide advice and specialized military assistance to the Republic of Vietnam. With the arrival of sizable U.S. forces in 1965, COMUSMACV became a combatant command. The air component of this subunified command was the 2d Air Division commanded by Lieutenant General Joseph Moore. Initially

⁵Schlight, 1988, pp. 29–30. These operations were typical of those later conducted: a massive concentration of aerial firepower against suspected enemy troop positions followed by a sweep by friendly ground forces, often with little tangible result.

⁶Schlight, 1988, p. 33.

⁷Cardwell, 1984, provides an excellent overview of the command structure in Vietnam as well as those of World War II, Korea, and the intervening years.

Commander Seventh Fleet, who in turn reported to CINCPACFLT, a component command of USCINCPAC. USCINCPAC, Admiral Ulysses S. Grant Sharp, provided air and naval forces to support COMUSMACV through his air and naval component commanders. Most of those forces were not controlled by COMUSMACV. Thus, Admiral Sharp kept all the strings in his hands.

Sharp [USCINCPAC] was adamant in his position—his headquarters would control the air war against North Vietnam while MACV would control air power employed in South Vietnam.¹⁰

Lest one think such an arrangement unreasonable, Sharp's position perhaps reflected the U.S. political leadership's concern over the possibility of the entry of the People's Republic of China into the war and the larger PAC force posture ramifications with regard to Soviet forces in the Pacific.¹¹ As evidence, it should be remembered that the President and the Secretary of Defense were carefully adjusting, even micromanaging, the deployment and employment of American military power in Southeast Asia in early 1965. Nevertheless, COMUSMACV's frustration with the command arrangements were apparent:

In view of this command arrangement, seeds of friction not unlike those that had plagued MacArthur and the Navy during World War II were present. . . . What many failed to realize was that not I but Sharp was the theater commander in the sense that General Eisenhower, for example, was a theater commander in World War II. My responsibilities and prerogatives were basically confined within the borders of South Vietnam. Admiral Sharp commanded the Navy's Seventh Fleet, over which I had no control. . . . When the bombing of North Vietnam began in February 1965, Admiral Sharp controlled that too.¹²

Whatever the political merits of centralized command in Hawaii, it set the stage for continuing arguments with and among USCINCPAC's component commanders and COMUSMACV. Overlaid on this split in authorities for the employment of tactical air power were strong doctrinal differences among the Navy, Air Force, Army, and Marine Corps, and COMUSMACV.

Within USCINCPAC's Air Force component, PACAF, arrangements were only slightly less complex. In early 1965, Thirteenth Air Force, nominally in charge of all Air Force forces in Southeast Asia, had forces deployed in Vietnam and Thailand as well as the Philippines. Air Force forces in Vietnam were under the operational control of COMUSMACV through 2d Air Division (as component commander to COMUSMACV), while those in Thailand continued to be under the operational control of Thirteenth Air Force through 2d Air Division. Thai-based forces could not attack targets in South Vietnam (a political decision made in Washington), and Vietnam-based air forces did not do much to attack targets in North Vietnam (a military allocation of effort decision made by COMUSMACV in Saigon). Matters were somewhat simplified on 8 July 1965 when the 2d Air Division (a numbered Air Force in all but name) was placed directly under PACAF.¹³

COMUSMACV was to exert continuous pressure to get control of all air forces employed in Southeast Asia—whether based in Vietnam, Thailand, or Navy carriers. Failing in that quest he exerted close control over the employment of Air Forces in Vietnam, but without a

¹⁰Momyer, 1978, p. 83.

¹¹See Sharp, 1976, pp. 4, 33, 95, 117, 148–150.

¹²Westmoreland, 1976, p. 76.

¹³These arrangements sound complex because they were. The appendix summarizes the evolution of those command arrangements.

staff sufficiently knowledgeable of such operations.¹⁴ Up until early 1968 III MAF was left to conduct its own air campaign with 1st Marine Air Wing assets in the I Corp zone—with only minimal coordination with 2d Air Division.¹⁵

The establishment of Seventh Air Force on 1 April 1966 to replace the 2d Air Division was principally cosmetic and did little to change arrangements.

INTERFACE OF FIXED WING AND HELICOPTER OPERATIONS

Perhaps the biggest change in force structure (and biggest challenge to the air control of joint operations) since the Korean War 15 years earlier was the introduction of large numbers of helicopters by all services, but particularly by the Army and Marine Corps. These light rotary wing aircraft were literally everywhere in South Vietnam, ferrying forces and supplies and providing direct fire in support of engaged ground forces. Consequently, the increasing rate of their involvement was bound to lead to control and coordination problems with the fixed wing air assets of the other services.

In some ways the debate over the helicopter's potential roles and opportunities can be seen as both a microcosm of the earlier doctrinal debates over air power and a manifestation of the differing views of the nature of the Vietnam conflict. The doctrinal debate was characterized by those espousing the primacy of the ground campaign and the subordination of air/helicopter assets to the ground commander, as opposed to those advocating the independent and innovative employment of air/helicopter assets in establishing the nature and course of a conflict. Superimposed on the debate was the controversy of the Vietnam conflict as a counterinsurgency or a full-fledged war, each of which entailed different strategies and tactics for air power. These debates were never truly settled at any political or military level of command.

The Marine Corps amphibious doctrine necessitated few helicopters, largely designed for short-haul beachhead supply of landing forces. In Westmoreland's view, this limited application restricted Marine mobility and contributed to a resistance to the helicopter gunship. "Their self-confidence [in their close-support tactical air system] . . . apparently made them reluctant to ask help, so that often I had almost to force them to accept U.S. Army support."¹⁶

The Army and Air Force interface was another matter altogether. Army helicopters were assigned to the various Corps area ground commanders who controlled their operations through several echelons. Their use was consistent with the evolving Army air mobility doctrine, which viewed helicopters as performing critical roles of troop insertion, resupply, and removal, and prompt fire support to the battlefield. In contrast, the Air Force viewed helicopters as extremely vulnerable to enemy ground fire and therefore their use should be limited to a counterinsurgency role rather than expanding the potential tactical exploitation of infantry.¹⁷ According to General Westmoreland's memoirs, the Air Force was concerned that the Army was trying to usurp the USAF role.

¹⁴Some early effort was made to make the Commander of 2d Air Division a Deputy Commander to COMUSMACV to get more air expertise on that staff. But this proposal fell on deaf ears since General Westmoreland wanted an Army deputy. General Moore was made the *Air* Deputy to COMUSMACV in May 1965.

¹⁵Early in the Vietnam conflict Marine terminology changed—e.g., an MEF (Marine Expeditionary Force) became an MAF (Marine Amphibious Force). Current (1990) usage is MEF.

¹⁶Westmoreland, 1976, p. 165. Historian Donald J. Mrozek notes that General Wallace M. Greene, Jr., commandant of the Marine Corps, in Congressional testimony in March 1966 defended the use of the helicopter as standard in Marine Corps operations, in contrast to the Army's view of the helicopter as a novelty. See Mrozek, 1988, p. 82.

¹⁷Momyer, 1978, pp. 249–250; Mrozek, 1988, p. 77.

When I was in Washington late in 1964, General Curtis E. LeMay, Air Force Chief of Staff, upbraided me about the way I was using air power, and a few weeks later when he was visiting Hong Kong he summoned General Moore [LTG Joseph H. Moore, USAF, and CG, 2d Air Division; also Deputy Commander USMACV for air operations] to join him there where he administered a tongue-lashing for what he called failure to uphold Air Force doctrine but what in reality was his discontent that Moore had endorsed installing machine guns on helicopters.

To my regret General LeMay never accepted my invitation to visit Vietnam and examine at first hand how we used air power. Had he done so he might have learned that counterinsurgency warfare required many variations from conventional practices and that there was room enough amid the myriad requirements for close air support in Vietnam for both fighter plane and helicopter gunship.¹⁸

Similar to the earlier internal Air Force doctrinal debates over air autonomy versus support to the battlefield, differing views of helicopter employment in Vietnam led to disagreements between the Air Force and the Army over their control and over the resolution of problems of operational interference between helicopters and fixed wing aircraft.¹⁹ Army helicopters were never placed under Air Force control, but coordination of air operations was imposed somewhat through the physical collocation of air operations centers and a directive (from General Paul D. Harkins, COMUSMACV, 18 August 1962) calling for concentrated air attacks before heliborne assaults and their escort by fixed wing aircraft.²⁰

INTERFACE WITH MARINE OPERATIONS IN I CORPS

A book could be written about the Air Force and Marine doctrinal disagreements during the Vietnam War, in many instances at Army expense. It rapidly became clear that the reasonably harmonious Air Force-Marine relationship achieved during the Korean War masked deep Marine discontent with what it saw as an Air Force grab for control of the Marine air component.²¹ Consistent with their air power doctrine, Air Force leaders saw the fragmentation of tactical air forces into small packages as inefficient and expensive. They argued that control should be centralized—under the Seventh Air Force.

In August 1965 an air defense coordination agreement was reached between 1st Marine Air Wing and Seventh Air Force. Under the terms of the agreement the latter was to be responsible for the air defense of South Vietnam. The memorandum of agreement gave the Air Force scramble authority for Marine alert fighters, and the authority to designate targets and to declare USMC Hawk missile control status.²²

What was fairly easy for the air defense function was incredibly difficult for the function of supporting ground forces. The different Marine and Air Force views on this subject came

¹⁸Westmoreland, 1976, pp. 86–87.

¹⁹For further elaboration, see Mrozek, pp. 76–77.

²⁰Momyer, 1978, p. 265. As Schlight, 1988, p. 160, reports, “[t]he Air Force, however, still had no voice in the use of the helicopters that belong to Army combat units and senior corps advisors or, in the case of general aviation, to MACV. The only interface between these helicopters and the Air Force’s control system was through a vague MACV injunction that the Army’s commanding general in Vietnam ‘prepare joint operating instructions to ensure integrated and coordinate air operation.’” See also p. 295.

²¹McCutcheon, 1985, pp. 272–273, 275. In one author’s conversations with Marine aviators, it is clear that most of this discontent was doctrinal. But part of it was anger at what air Marines saw as Air Force unpreparedness in equipment and doctrine for the support of ground troops at the onset of conflict while (in the Marine view) trying to “take over” a function for which they were allegedly unsympathetic and unprepared—all under the guise of unity of command. For an eloquent rebuttal to this Marine view, see Momyer, 1978, pp. 81–82, 285.

²²McCutcheon, 1985, p. 274.

into increasing conflict starting in mid-1967 as Army forces started moving into I Corps in strength, coming in time to outnumber the ground Marines in that area. These problems, whether perceived or real, came to a head during the time frame of the Tet Offensive and defense of Khe Sanh in early 1968. The opposing views of the problems can be summed up, first, for the Air Force.

The compromise for controlling the air operations at the outset of the campaign, did not work to Momyer's [Commander Seventh Air Force] satisfaction. Air space congestion and the lack of aircraft at critical times were common occurrences. . . . Most of these problems were created by the existence of both an Air Force and a Marine agency trying to control airplanes in a tight space. The situation was compounded by the need to integrate Navy and B-52 sorties. . . . The two separate targeting systems added to the confusion. Sometimes the two air forces hit the same target and other targets went untended.²³

The Marine views were built on their doctrine (as discussed in Sec. II) and their interpretation of USCINCPAC's directives on the control of aircraft of the different services.

The Marine Corps is proud of the fact that it is a force of combined arms, and it jealously guards the integrity of its air-ground team. . . .

The Commanding General of III MAF was directed to exercise operational control over all Marine Corps aviation resources except in the event of a major emergency or disaster when COMUSMACV might direct Commander, Seventh Air Force, to assume operational control.²⁴

The depth of frustration suffered by General Westmoreland over Marine "footdragging" in providing tactical air support to the Army's 1st Cavalry Division at Khe Sanh is illustrated below:

Because the marines had their own tactical aircraft and air support system, a system of which they were justifiably proud, they furnished most of the close air support from Danang northward. When moving the cavalry division into the northern provinces, I had admonished the commander of the 1st Marine Air Wing, Major General Norman J. Anderson, in General Cushman's presence, to make certain that the needs of Army divisions for tactical air support were satisfied. Visiting the cavalry division, I found that neither Anderson nor anybody from his Marine command had established contact with the Army division or arranged for direct communications for expeditious air support.

Having already become concerned about efficient management of tactical air resources in the northern provinces and having directed General Momyer to study the matter, I was convinced by this failure that I had to move immediately. To have several tactical air systems functioning in the same confined region—Marine Corps, Air Force, Vietnamese Air Force, and, on occasion, U.S. Navy—was simply too ponderous, too extravagant with resources, the situation too conducive to error. As I noted to General Wheeler, it was a "dog's breakfast."

Somebody had to be in charge, to allocate available tactical air resources other than helicopters where most needed and to co-ordinate their employment. Such a system had been worked out for the SLAM operation in support of Con Thien in 1967 and again for Operation NIAGARA around Khe Sanh, yet it was wasteful to have set up a new system each time, and the SLAM arrangements had no effect on tactical air other than in the immediate vicinity of the defended base.

As I noted later in a cable to General Wheeler, it "became a matter of utilizing most efficiently available resources." While I recognized that Marine air doctrine was based on massive support of an amphibious beachhead, the situation in the northern provinces had long since changed from a beachhead to sustained operations over a large sector. Just as I had found it necessary to reinforce the marines with Army artillery, "it became necessary for the

²³Schlight, 1988, pp. 285-286.

²⁴McCutcheon, 1986, pp. 272, 274.

Marine air to lend a hand from time to time with air sorties to support Army units as a part of our over-all effort." In the same way that the marines controlled Army artillery units, so there had to be a single headquarters in charge of all tactical air in the north "to provide the required flexibility." It "made nothing but tactical and management sense" that the single manager should be my Deputy for Air, General Momyer. Yet when I directed General Momyer to set up such a system, the chorus of objections the decision precipitated was vociferous. . . .

In the Joint Chiefs of Staff the Marine Corps Commandant made a doctrinal issue of it. One meeting on the subject followed another. To my disappointment, the Army Chief of Staff, General Johnson, concerned lest a precedent be established that might lead to the Army's losing its helicopters to the Air Force, failed to support my position. Marine Corps pressure on Admiral Sharp at CINCPAC was heavy. It was one of my most exasperating exercises. . . . That was the issue—the one issue—that arose during my service in Vietnam to prompt me to consider resigning. I was unable to accept that parochial considerations might take precedence over my command responsibilities and prudent use of assigned resources.²⁵

The issue was ostensibly resolved, or, more likely, papered over, for the near term by a USCINCPAC decision to give the Commander, Seventh Air Force (at that time, General Momyer), "mission direction" over Marine aircraft in I Corps. The term "mission direction" meant two different things, however, to the Air Force and the Marine Corps. General Momyer interpreted it to mean operational control, while the Marines saw it as circumscribed by two important modifications: (1) in air-ground team operations they could obtain immediate, emergency strikes without going through Seventh Air Force; and (2) they could appeal decisions over COMUSMACV directly to CINCPAC.²⁶ In essence, the vagueness of the interpretation of "mission direction" and the restrictions imposed on its implementation meant that the Marines never relinquished operational control over their air assets.²⁷

INTERFACE WITH SAC

The use of SAC's heavy bombers in Vietnam was not foreordained, nor were the mechanisms for their operational control constant throughout the war. SAC was reluctant to reduce its primary commitment to nuclear deterrence and attack operations, Air Force commanders in Vietnam saw it as probably unnecessary, and the Secretary of Defense worried about the expense. What counted was that COMUSMACV was convinced SAC's bombers were needed and gave a dimension to his operations that tactical air forces could not provide.

Coinciding with Operation *Flaming Dart* in early 1965, 30 B-52s were deployed from the United States to Andersen Air Force Base, Guam. In addition, 32 KC-135 tankers were deployed to Kadena Air Base on Okinawa. While these forces were prepared to support the raids into North Vietnam, the decision was made not to use them in *Flaming Dart* and they were kept in reserve.²⁸ Arguments against using the B-52s in general and against the North in particular came from two sources. The State Department believed their use would represent escalation in the conflict and might cause an overreaction by the People's Republic of China (PRC) or the Soviet Union. SAC was reluctant to draw down their available forces for world-

²⁵Westmoreland, 1976, pp. 342–344.

²⁶Schlight, 1988, p. 286.

²⁷McCutcheon, 1985, pp. 275–276; Schlight, 1988, pp. 295–296.

²⁸Schlight, 1988, pp. 17–18.

wide strategic alert.²⁹ Furthermore, the psychological inhibition of losing a B-52 to enemy fire led to caution about their use.³⁰

However, at a conference of U.S. civilian and military leaders in Honolulu on 20 April 1965, Westmoreland argued before Secretary McNamara and the Joint Chiefs for the use of B-52s in bombing Viet Cong targets in the South, since tactical fighters were not able to provide the large-scale, systematic laydowns the same way the B-52s could. The JCS gave its approval, and consequently, plans were made for what became the first "Arc Light" operations on 18 June 1965.

The B-52s were used in direct support of ground troops for the first time in the defense of the Plei Me camp near Pleiku, South Vietnam, in November 1965. Eighteen B-52s dropped over 900 bombs into the enemy's area near the fighting. Their successful use encouraged General Westmoreland to request daily B-52 strikes, and with JCS approval, he worked directly with the headquarters for the bombers at 3d Air Division on Guam. The JCS placed constraints on General Westmoreland's control of the bombers, however, by making it "subject to monitoring and possible veto by higher authority."³¹ This qualification reflected a concern with the use of the heavy bombers in fighting so close to the Cambodian border.³² In April 1966 the first use of B-52s against North Vietnam occurred when the heavy bombers were brought in to interdict North Vietnamese (NVN) lines of communication leading to the Demilitarized Zone and the Ho Chi Minh Trail in Laos. Furthermore, although the KC-135s had primarily supported the B-52s, they were used in an alternative role by refueling various tactical aircraft in Southeast Asia.³³

The operational control and target assignment procedures of Arc Light operations were very rigid, extending back to Washington, and consequently were a source of frustration for the Commander, Seventh Air Force, General Momyer.

The 2nd Air Division/Seventh Air Force commander and all the ground force commanders nominated targets to MACV. MACV consolidated the list and established an order of priority before sending it to CINCPAC. CINCPAC reviewed the list but rarely made any significant changes before forwarding it to the Joint Chiefs of Staff. The JCS thoroughly reviewed the list before submitting it to the Secretary of Defense, who coordinated with the Secretary of State before submitting it to the President. This was a long and involved process, considering the nature of targets in South Vietnam. The coordination process was simply not effective for employing bombers against suspected enemy areas. The drawbacks were soon recognized, though, and by early 1966 the system changed to permit JCS approval of targets within South Vietnam. Soon B-52s were being used selectively against targets on the LOCs in Laos, with approval for those strikes coming from the Secretary of Defense after coordination with the President.

SAC established a liaison section in MACV headquarters to coordinate air strikes requested by MACV. This liaison section reported to the Deputy Chief of Staff for Operations at SAC headquarters, but dealt mostly with SAC's Eighth Air Force headquarters in Guam. Eighth Air Force commanded all the B-52s, tankers, and strategic reconnaissance aircraft in Southeast Asia. As Seventh Air Force commander, I had no control over the targeting,

²⁹Not only was SAC concerned about the use of B-52s, but also about their operational control. As General Momyer wrote, "While operational control of the bombers was withheld from COMUSMACV, it was also withheld from CINCPAC, the theater commander. The Air Force argument prevailed that because the B-52s also had a nuclear mission for general war, they should remain under the control of SAC, a specified command reporting to the Joint Chiefs of Staff. Of course CINCPAC also reported to the JCS, and any of SAC's forces under the operational control of CINCPAC would be withdrawn at any time. But the Air Force argued that in an emergency valuable time could be lost in debate over pulling the forces from CINCPAC's control." See Momyer, 1978, p. 99.

³⁰Schlight, 1988, pp. 49-50.

³¹Quoted in Schlight, 1988, pp. 104-105.

³²Schlight, 1988, p. 105.

³³Berger, 1984, p. 71.

timing, or attack profile of the bombers. Basically, I provided advisory assistance through the tactical air control system, pre-strike and post-strike reconnaissance of the target area, fighter cover in the vicinity of the DMZ and in Laos, and ECM support with Wild Weasels and EB-66s.³⁴

Momyer continued to raise the issue with Westmoreland about operational control of the bombers, and although Westmoreland eventually agreed with Momyer, the issue was never resolved because the USAF Chief of Staff was unwilling to place the B-52s under the control of the MACV air component commander. Subsequent Seventh Air Force commanders continued to raise the issue. The resumption of bombing in 1972 again brought it to the forefront, particularly because of the allocation of targets, forces, and responsibilities in route packages among MACV, Seventh Air Force, and TF77.³⁵ But throughout the war SAC retained control of the B-52s, and the issue, eventually tied with arguments for a single manager for air, was never resolved.

B-52s continued to be used in many operations in support of ground operations in South Vietnam—e.g., Operations *Birmingham* (April 1966), *Attleboro* (November 1966), *Junction City* (February–May 1967), and *Delaware* (April 1968). In addition, they were extensively used in the defense of Khe Sanh. As General Westmoreland recounted,

The thing that broke their back basically was the fire of the B-52s. Now yes, we did have additional fire power. We were putting in around 100 TAC air sorties a day. We had sixteen 175-mm guns of the U.S. Army that were moved within range of Khe Sanh base and they fired a number of rounds each day and they did an excellent job but the big gun, the heavy-weight of fire power, was the tremendous tonnage of bombs dropped by our B-52s. Without question the amount of fire power put on the piece of real estate exceeded anything that had ever been seen before in history by any foe and the enemy was hurt, his back was broken by air power.³⁶

APPORTIONING EFFORT BETWEEN IN- AND OUT-OF-COUNTRY OPERATIONS

COMUSMACV wanted control of all air assets that could be used to support his ground operations in South Vietnam while USCINCPAC and his component commanders were determined to retain control of theater assets for attacks against the North, Laos, and (later) Cambodia. It was Honolulu against Saigon. The man in the middle was Commander, Seventh Air Force, who had responsibilities for both target sets.³⁷ Compared with the other service components, the Marines made few strikes into the North. As time wore on, the Navy was increasingly oriented against targets in the North, in some respects getting its separate air campaign as it did so successfully in Korea.

Commander Seventh Air Force had responsibilities to COMUSMACV as his air component commander and Deputy Commander for Air. He had responsibilities to PACAF as a numbered Air Force commander. Momyer did a superb job in balancing these responsibilities; he was a loyal and effective subordinate to both his commanders. In spite of earlier

³⁴Momyer, 1978, pp. 99–101.

³⁵Momyer, 1978, pp. 101–104.

³⁶Quoted in Berger, 1984, p. 157. Although appropriate for Khe Sanh, Westmoreland's comment about "breaking the enemy's back" with the B-52s should be qualified with respect to the effect of B-52 bombing campaigns on the war's outcome. The North Vietnamese did return to the negotiating table in early 1973, but a causal linkage between the resumption and effects of the *Linebacker II* bombing campaign and the cessation of the war is not clearly evident. Certainly the bombing campaign slowed but did not defeat the NVN in the war.

³⁷Schlight, 1988, p. 130.

USCINCPAC pronouncements as to the priority of air missions (support of ground operations in Vietnam came first), in reality as time wore on the strikes against the North were the independent variable since they were directed from Washington and Hawaii.³⁸ What was left was available for in-country operations. As events turned out, “what was left” was in most cases more than adequate.³⁹

INTERFACE WITH THE NAVY

Compared with the situation in the Korean war, the Air Force-Navy interface was almost benign. There are several explanations for this state of affairs.

- The Air Force had its hands full in dealing with the many other interface problems cited above and had scant time to seriously contest the Navy’s demand to control its own air forces.
- The Air Force and Navy had reached a *modus vivendi* in Korea that continued to be operative during the Vietnam conflict. That tacit agreement rested on the vague formulation of coordination control that met the minimum demands of each service component and the return to the “route package” system (geographic demarkation of respective target areas) that characterized Korean operations.
- With a naval officer as USCINCPAC, the Air Force saw little point in mounting a major battle with the Navy for centralized control of air assets.
- Each service had come to understand, and accommodate to, the unique (not to say peculiar) doctrinal command and control considerations important to the other.

All of these several explanations probably played their parts in the satisfactory integration of Air Force-Navy tactical air operations. After a brief attempt at time-sharing operations in North Vietnam in late 1965, the two services returned to the route package system.⁴⁰

Strikes on fixed targets and armed route reconnaissance were resumed in North Vietnam during the first half of 1966. Operational control was improved on 1 April when the Air Force was assigned responsibility for Route Packages 5 and 6A, the closest to that service’s airfields in Thailand, and COMUSMACV for operations in Route Package 1, which was adjacent to the critical northern provinces of South Vietnam. The Navy assumed control of operations in the heavily populated, militarily vital coastal Route Packages 2, 3, 4, and 6B.⁴¹

Despite this agreement, there were still strong Air Force views on the need for unity of command of the theater air effort—under Air Force direction. Successive commanders of the Seventh Air Force were dissatisfied with the continuation of the coordination control route package concepts carried forward from the Korean experience.⁴² Regardless, the official Air Force history of Vietnam, in marked contrast to its Korean war counterpart, is content to cite some of the shortcomings of sea-based compared with land-based air and alleged Navy parochialism but hardly touches on the command and control arrangements between the two services.⁴³ The command and control battles of prime interest to the Air Force component were

³⁸Schlight, 1988, pp. 32–33, 58.

³⁹Schlight, 1988, pp. 43, 54. The official Air Force history points out numerous cases when available air power was improperly tasked or controlled. Except during the airfield construction phase in 1965–1966, it cites few cases where the operational problem was insufficient air assets.

⁴⁰Marolda and Pryce 1984, p. 32.

⁴¹Marolda and Pryce, 1984, p. 33.

⁴²Momyer, 1978, pp. 90–98.

⁴³See Schlight, 1988, p. 43, for one example of command and control arrangements affecting the Navy. There was still a great deal of parochialism on both sides. The official Air Force history cites USCINCPAC and Navy “footdragging” on airfield construction and the Air Force dilemma in trading off airfields for carrier decks. Schlight, 1988, pp. 120–121.

with COMUSMACV, the Army, and the Marines. There is no persuasive evidence that the Navy was less than forthcoming when urgent operations (as at Khe Sanh in 1967–1968) required Navy support to the Marines and Army units.

UNITY OF COMMAND

The only unity of command in the theater was at the USCINCPAC, CINCPACFLT, and III MAF levels. USCINCPAC chose to operate through his two component commanders (PACAF and CINCPACFLT) and the commander of the subunified command (COMUSMACV) in controlling air operations. Table 3, in showing the command arrangements, suggests some of the complexities and gaps in this arrangement. As indicated earlier, tight control by USCINCPAC was probably unavoidable given the closely held direction of the war effort from Washington. There were two “victims” of these arrangements: COMUSMACV and Commander Seventh Air Force.

COMUSMACV was denied operational control over assets he believed he needed to prosecute the war successfully. Air units in Thailand, carrier units in the Gulf of Tonkin, and SAC units based in Guam and Thailand were under the operational control of others. Even III MAF, technically under his operational control, was watched over closely by USCINCPAC and Commanding General FMFPAC in Hawaii. This fragmentation of assets and their control was magnified for Commander Seventh Air Force. He had all the problems his joint commander General Westmoreland had plus some of his own unique to the Air Force. As a numbered Air Force commander he was responsible to PACAF, who had his own views on the way the air campaign was conducted.

Table 3

CONTROL OF U.S. COMBAT FORCES, SOUTHEAST ASIA,
1965–1968

Operational Area	Component	OPCON	Through
South Vietnam	USAF	COMUSMACV	7th AF/sqdns
South Vietnam	USN	COMUSMACV	7th AF
RVN, I Corps	USMC	CINCPACFLT ^a	III MAF ^b
RVN, I Corps (helicopters)	US Army	COMUSMACV	XXIV Corps
RVN, II Corps (helicopters)	US Army	COMUSMACV	I Fld Force
RVN, III Corps (helicopters)	US Army	COMUSMACV	II Fld Force
RVN, IV Corps (helicopters)	US Army	COMUSMACV	4th Division
South Vietnam (B-52)	USAF	CINCSAC	SAC Adv Echelon (MACV)
Laos—BARREL ROLL	USAF	CINCPACAF	7th AF/sqdns
Laos—STEEL TIGER	USAF	CINCPACAF	7th AF/sqdns
Laos—TIGER HOUND	USAF	COMUSMACV	7th AF/sqdns
NVN—Rte Pkg I	USAF	COMUSMACV	7th AF/sqdns
NVN—Rte Pkg II, III, IV	USN	CINCPACFLT	7th FLT/CVs
NVN—Rte Pkg V	USAF	CINCPACAF	7th AF/sqdns
NVN—Rte Pkg VI A	USAF	CINCPACAF	7th AF/sqdns
NVN—Rte Pkg VI B	USN	CINCPACFLT	7th FLT/CVs

^aShifted to COMUSMACV in March 1968.

^bShifted to 7th AF in March 1968.

In many respects, Vietnam remains an example of centralized control at the top (Washington, Honolulu, and to a much lesser extent, Saigon) *and disunity below*. In a sense, it is as though the Korean war resulted in unification at the theater level but stopped short at the subunified command and service component level. It remained for those who fought in the Vietnam war to sort out the hornet's nest of unresolved unity of command issues.

JOINT PLANNING AND OPERATIONS

Given the disunity of command below the theater commander level, it is difficult to assess the quality of joint planning. Moreover, since much of the planning and even some execution decisions were undertaken in Washington on the basis of political or "management" judgments, it would be inappropriate to fault operational commanders already laboring under faulty command arrangements imposed from above. When the quality of planning was poor, the root cause seemed more often than not to go back to deficiencies in the command arrangements. The on-again, off-again nature of the bombing campaigns against the North, the poor integration of B-52 operations in the overall air campaign, and the fragmentation of the air effort in the South are all examples of external imperatives dominating theater planning and operations to their detriment.

The best examples of planning, execution decisions, and operational competence overcoming poor command arrangements were the Khe Sanh battles of 1967–1968.⁴⁴ The best example of overcoming poor planning with solid operational competence was the response of U.S. forces to the Tet Offensive in early 1968.

DOCTRINE, TRAINING, AND HARDWARE

As in Korea, the Air Force came to the conflict best prepared in air doctrine as it applied to unity of command and worst prepared in terms of hardware and trained personnel suitable for the task at hand.⁴⁵ The Marines were best prepared and equipped, but the Marines could not have directed (nor would they have wanted to) the multidimensional air campaign that developed in Southeast Asia. The Navy provided an important set of attributes to the war that came: They got there first, and into early 1966 carried much of the air support burden in both the South and the North.⁴⁶

But it was the Air Force that by preference, mission, and its experience in the Korean war should have been positioned to direct and undertake the air campaign with the support of the other services. While Air Force accounts are quick to point to the other services and the joint command structure for the source of their problems, the fact is that there were internal Air Force policy and doctrinal problems as well, as the official Air Force history notes.

A fundamental shift in national military policy away from primary reliance on nuclear deterrence and towards a program to strengthen those forces that might be used at lower levels of conflict began with the advent of John F. Kennedy in 1961. As late as 1964, however, the Air Force continued to maintain that strategic nuclear forces provided the best instrument to

⁴⁴Nevertheless, the defense of Khe Sanh in early 1968 remains somewhat of an anomaly of the Vietnam war.

⁴⁵This is a harsh judgment, but one supported by the facts: the near absence of an off-the-shelf forward air controller (FAC) capability (hardware borrowed from the Army), a paucity of conventional munitions stocks (much was to be borrowed from the Navy), and a doctrinal focus on nuclear war. See Momyer, 1978, pp. 16–17; Byerly, 1970, p. 13; Clodfelter, 1989, pp. 26–37.

⁴⁶One Navy account asserts that Navy aircraft flew one-third of the tactical fighter sorties in South Vietnam during 1965–1966. Marolda and Pryce, 1984, p. 32.

prevent wars at all levels. While conceding the need for some forces to be ready to fight limited and conventional wars, it remained wedded to the primacy of the nuclear arsenal as a deterrent to all kinds of war. . . .

By 1968, the Southeast Asian experience had modified this view without changing it completely. . . . Strategic force should be complemented by enough general purpose forces for deterrence at lower levels.⁴⁷

Although such generalities may mask the real resource choices the Air Force had to make between the Korean and Vietnam conflicts, the Air Force still had to undergo a major reequipping during the conflict *to fight the war that was not deterred*. For example, the FAC was the mainstay in directing tactical air power in the Vietnam conflict (as it often was in Korea), but the Air Force was not prepared to field a FAC force.

Although the March [1965] call for more Bird Dogs had been approved, it would be summer before the planes were ready. Except for the 23 O-1s belonging to the 19th Tactical Air Support Squadron (TASS), the Air Force had owned none of these Cessna planes since the Korean War. The Army gave the Air Force 106 of them and made them ready for combat.⁴⁸

The interoperability of forces was not the same problem it was during the Korean War. Most systemic communications problems were resolved, although in the heat of battle there is always a reason to fault the communications suite on hand. The services adapted their hardware to meet the challenges. Since the Air Force had the greatest adaptation to make, its achievements were the greatest of all services.⁴⁹

OVERALL EVALUATION

The Vietnam war did not end in 1968 where we terminate our examination. But the essential forces, procedures, tactics, and command arrangements were in place by the summer of 1968, and those modalities were to see the U.S. forces through the remainder of the war. Unity of effort was never an overriding goal for guiding joint tactical air operations. Again, massed air power was applied in a less than optimal environment. Again, command and control problems greatly diminished the effectiveness of air power application and its efficient application. The fact that those problems were political and beyond the joint organizational process does little to excuse the national security community for failing to organize itself to overcome them. The Vietnam war was regression in the sense that many lessons learned in Korea had to be relearned. It represented progress in that fundamental issues were confronted and responsible leaders developed the solutions that the situation demanded. For better or worse such phrases as *coordination control*, *mission direction*, *route packages*, and *single manager for air resources* became part of the lexicon of orchestrating the efforts of the different services.

However, one fundamental problem was not adequately addressed during the Vietnam experience: the relationship of an important subunified commander (or a JTF Commander) with his theater CINC and his component commanders. Despite the luxuries of time and

⁴⁷Schlight, 1988, p. 309.

⁴⁸Schlight, 1988, p. 24. There were similar problems in training the requisite number of air controllers. No service is exempt from this type of myopia. For example, the Navy relearns the imperatives of being prepared for mine warfare about twice per generation.

⁴⁹There are many examples: using F-5s and AT-37s as ground attack aircraft (missions for which they were not designed), using F-105s as conventional bomb delivery vehicles (an unhappy choice but forced by combat necessity), the development and successful utilization of AC-47 gunships, the adaptation of Navy A-1s to the Air Force ground support role.

effort, in Vietnam there was no ready transition from peace to war with adequate top-level command arrangements in place to smooth the way. This may reflect not only the contentiousness over the nature of the conflict and American involvement, but also the lack of a serious threat to force survival as was present at the Midway and Solomons campaigns. It was left to the fighters to live with these preexisting defects. The challenge to future leadership in preparing for future conflicts is to ensure that the warriors are better supported in all ways than they were in Vietnam.

VII. LESSONS LEARNED, RELEARNED, AND UNLEARNED

Korea is one long lesson in the fact that military power is total power and should be based on a balance of air, ground, and naval forces. . . . Only with the skillful combination and concentration of all available weapons, whether airborne, seaborne, or earthborne, can we hope to achieve the desired end.¹

These brief sketches of past battles and campaigns and our critique of them suggest several lessons for the future accomplishment of unity of effort in joint tactical air operations. Bearing in mind our initial assumption about unity of effort (that it encompasses solidarity of purpose, effort, and command), we will assess the mistakes made in the four campaigns in the context of our framework for analysis.

In sum, and as illustrated in Table 4, unity of effort was achieved largely by accident or as a result of imminent threat to the survival of the forces engaged.

Table 4
THE PURSUIT OF UNITY OF EFFORT

Evaluation Elements	Midway, 1942	Solomons, 1942–1944	Korea, 1950–1953	Vietnam, 1965–1968
Unity of Command				
—Meddling by senior command echelons	No	No	Yes	Yes
—Single command for land- and sea-based air?	Theater level	Sub-unified command level	Theater level	Theater level
—Single commander for land-based air forces of different services?	Yes	Yes	No	No
—“Competing” commands in-theater	No	No	Yes—Xth Corps + USMC air elements	Yes—USMC air ops in I Corps
Joint Planning				
—Common doctrine?	No	No	No	No
—Joint force employment planning?	Minimal	Most of the time	Major targeting disconnects	Fragmented
—Geographic partition of effort?	No	Sometimes	Yes	Yes
Joint Operations				
—Joint Operations Center?	No	Sometimes	Yes	Yes
—Tactical coordination?	No	Yes	Sometimes	Yes
—Innovation to compensate for incompatibilities?	No	Yes	Sometimes	Sometimes
Training and Hardware				
—Suitable training?	No	No	No	Some
—Suitable hardware?	No	No	Some	Some
Was Unity of Effort Achieved?	Yes—but only by accident	Yes—because of severity of threat	No	No

¹Millis, 1951, p. 375.

UNITY OF COMMAND

Unity of effort through the unity of air command was rarely achieved in the battles and campaigns we have examined. Unity of command was fractured across several lines:

- Across echelons of command (meddling by senior commands).
- Between land- and sea-based air.
- Among land-based air forces of all services and elements within the services.
- By geographically separated operations under separate command in the same theater.

Were these fractures inevitable? Indeed, is unity of effort through unity of command even achievable given the complexity of modern combat operations? And if achievable, is unity of command a correct measure of potential combat capability and effectiveness? In the discussion to follow, we will address these and other questions as we take a closer look at the implications of unity of command in tactical air operations for the accomplishment of unity of effort.

Meddling by Senior Command Echelons

There was no observable meddling by senior echelons at the Battle of Midway. Admiral Nimitz took on the role of overall air and naval commander. His role in this battle was much different than was to be the case in the ensuing Solomons campaign. At Midway he was both a strategic and operational commander, while Spruance, Fletcher, and Simard were tactical commanders. Once Nimitz in his dual role gave his initial instructions to his tactical commanders he refrained from further direct involvement.

In the Solomons, Nimitz reverted to his usual role as theater and strategic commander while Ghormley (and later Halsey) took on the role of operational commanders. The latter had the task of coordinating the conduct of air operations from land and sea bases. But they followed Nimitz's example by giving the tactical commanders (e.g., McCain as COMAIRSO-PAC, Fletcher as carrier force commander) considerable discretion once the campaign's direction and priorities were established. Even the tactical commanders gave leeway to their subordinates and seldom interfered once guidance and directions had been provided. This is not to say that these commanders at all echelons were not involved in the conduct of critical combat operations. Rather, they saw their roles as establishing the proper conditions under which effective combat operations could be conducted and providing the necessary support and coordination to those who were engaged.

How can one account for this benign command environment when units of all the services were involved? One answer is that there was a single clearly acknowledged lead service in the Solomons campaign and that service had a tradition of decentralized control. Another answer is that the personalities and background of the senior commanders involved was such that there was a high degree of trust and confidence among them *and that trust and confidence crossed service and command echelon lines*. Still another answer is that the urgency of the situation during the early phases of the Solomons campaign was such that there was no incentive, time, or opportunity for meddling—the strategic objectives and problems were clear to all. Unity of purpose existed for all those engaged.

Korea was another story. There were numerous instances of meddling by the staff of CINCFE in the conduct of the air campaign that went beyond the CINC's legitimate need to coordinate the efforts of subordinate force echelons. The CINCFE's interference was in three areas: target selection, apportionment of air effort among missions, and establishment or continuation of

subordinate theater commands with their separate tactical air forces. There were several reasons for this unsatisfactory situation. The CINCFE staff was joint in name only: no Navy, Air Force, or Marine Officers were assigned. Each component went its own way in peacetime, and this habit carried over into early combat operations. Prewar efforts at planning and coordination were feeble and ineffective in part because the separate services were satisfied with that situation.

The Vietnam campaign witnessed a renewal of this problem in several dimensions as USCINCPAC, COMUSMACV, and CINCPACAF all tried their hands at designating targets and apportioning effort for the Commander Seventh Air Force, the Commander Seventh Fleet, and Commanding General III MAF in I Corps. The most important meddling was that undertaken by COMUSMACV in assigning tasks and mission priorities to the Commander Seventh Air Force based on insufficient knowledge. This situation was made worse by the fact that for many months, well into the buildup "in-country," there was no clear lead air service in the theater. The Navy was there first, Marine ground combat units (with their own air) arrived before major Army ground units, and the Army for its part brought its own substantial air component with it and saw its role as being independent from control by the air component commander. Overlay on this situation the fact that the air campaign against the North was largely independent from the air operations against the Vietcong in the South and in effect you have a recipe for confusion and meddling of a high order.

We believe the lessons learned from this experience are as follows:

- The CINC should designate his air commander early in the planning, give him the necessary guidance, strive to give him the necessary resources, and then let him do his work. As forces are phased into the theater and enter combat, the planning should accommodate a shift of air command from one commander to another to reflect the mixture of forces from the various services as well as command and control capabilities.² This was a lesson learned in the Solomons campaign and put aside in Korea and Vietnam.
- The CINC (and his staff) should stay out of the details of air operational planning and execution once combat operations have started. The staff's job is to understand what is going on and inform the CINC, and to insure the air commander is properly supported. This was another lesson learned in the Solomons campaign and put aside in Korea and Vietnam.
- The CINC should establish a close personal rapport with all his component (including air) commanders early in the planning phase. He should establish an atmosphere wherein the separate component commanders see cooperation and coordination as a necessary preliminary step in defeating the enemy. Yet another lesson learned in the Midway and Solomons campaigns and put aside in Korea.
- The CINC must be mindful of service and joint doctrine but not be bound by it when it does not fully support mission accomplishment.³ He should insist on a flexible approach to problems while exploiting proven historical principles. Lesson only partially learned in Korea and Vietnam.

²We will discuss below the question of whether and how the air commander achieves unity of command among all the components providing air forces.

³This is a very delicate subject. The aggressive CINC risks being sandbagged in Washington by the service whose doctrine he challenges. As long as the services retain the responsibility for training and equipping forces and CINCs have the responsibility for employing them, there will be tensions among them.

Getting Land- and Sea-based Air to Fight the Same War

In spite of the experience of the four campaigns described in this report, there is still no generally accepted doctrine for integrating the operations of land- and sea-based tactical air forces. To be sure, there *is* some interoperability exercising and short-lived coordination in selected major exercises (e.g., USCINCPAC's PACEX series). What is lacking is integrated force employment *planning* that involves use of the same airspace and same target sets. Midway set the pattern in stark terms: There were two separate campaigns against the same target set. In the Solomons campaign the involvement of carrier forces was episodic and more related to a succession of responses to major Japanese naval thrusts than to what was occurring within the island chain itself. On the positive side, carrier forces on occasion supplemented and sustained the land-based air forces on Guadalcanal. But there were few instances of combined attacks by carrier and land-based air forces against Japanese naval, air, or ground forces.

In Korea, ComNavFE and Commander Seventh Fleet exerted near constant pressure to go off and fight the Navy's own air campaign against the North, in part because of the difficulties of coordinating with Fifth Air Force and in part because of fears that the Air Force would gain control of Navy forces.⁴ The Air Force for its part tried to gain control of Navy and Marine air forces while attempting to conduct an air campaign at some remove from the land battle in accordance with its doctrine. The Air Force was clearly reluctant to use its forces in close support of the land battle until and unless the ground situation was so critical that all assets had to be committed to saving UN ground forces. At that point the Air Force exerted every effort to assist the ground forces.

The Navy's somewhat self-serving rationale for avoiding subordination of its carrier air forces to FEAF was that it had to be ready to meet other commitments (e.g., protecting Formosa against invasion) and could not be tied down to a static role. Moreover, it professed to see a threat to its carrier forces from North Korea and later the PRC. To counter that threat it believed it needed to have the flexibility of movement and the ability to schedule its own attacks in a manner consistent with safeguarding the carrier forces.⁵ Nevertheless, naval commanders gradually adjusted to the special circumstances of the Korean conflict; and as the war progressed the relationship between the two air components became easier, more cooperative, and in some cases productive to the point of force synergism.

During the Vietnam conflict some of the same problems arose in more attenuated form. Air Force and Navy commanders had learned from the Korean experience that there were some satisfactory (and little more) methods for coordinating their operations without subordinating one component to the other. The Air Force commander had his hands so full coordinating USAF operations with Army and Marine air operations and with keeping COMUSMACV out of the details of air operations that he had scant opportunity or incentive to disturb an interface with the Navy that was working adequately even if not in accordance with USAF doctrine.

What can we conclude from these four campaigns about the conduct of joint land- and sea-based air operations?

- There *are* occasions when the survivability of carrier forces is an issue, or when those forces have multiple missions outside the context of an air campaign. In those cases

⁴Field, 1962, pp. 141, 144, 166.

⁵During the Vietnam war the Air Force leadership used a similar rationale to avoid putting the 13th Air Force as a component commander under COMUSMACV. Momyer, 1978, pp. 70-73, 79-80.

carrier forces should not be subordinated to an air component commander. Similarly, there are occasions when ground-based air forces have multiple missions outside the context of a naval campaign and should not be subordinated to an afloat commander.

- Conversely, there are occasions when conflicting missions or other special conditions (e.g., carrier survivability) do *not* apply, and one component commander can be given control of another component's forces under carefully specified conditions.
- These conclusions suggest that several modes of operations need to be defined, each mode based on explicit stipulations. It would be up to the CINC, after consultation with his component commanders, to determine what stipulations were met and thus what mode of control would be employed.
- The mode that has worked best to date, as confirmed by the experience of the Korean and Vietnam wars, is for one component commander (usually, but not always, the Air Force commander) to act as the lead commander and be given "coordination control" (a term to be defined below) over the committed assets of the other services.⁶ This commander should have senior representatives of the coordinated components' forces on duty at his air operations center.

"Coordination control" and similar terminology were used in both the Korean and Vietnam Wars. It remains undefined in JCS Pub. 1, but the term "coordinating authority" is defined as follows:

A commander or individual assigned responsibility for coordinating specific functions or activities involving forces of two or more Services, or two or more forces of the same Service. The commander or individual has the authority to require consultation between the agencies involved, but does not have the authority to compel agreement. In the event that essential agreement cannot be reached, the matter shall be referred to the appointing authority.

In the air command and control context, this definition could be extended to state:

As applied to the control of air operations this authority can be exercised in two ways:

1. The coordinating authority shall disseminate his support needs to the commanders of the supporting forces, and the latter will advise the former of the degree (in quantity, quality, time) they can satisfy those needs. The coordinating authority will then task the supporting commanders accordingly.
2. Using guidelines established by the coordinating authority the supporting commanders will advise the former of the capabilities (in quantity, quality, time) they can provide, and the coordinating authority will then task the supporting commanders consistent with needs and capabilities.

Often as a practical matter both methods will be employed simultaneously and enormously enhanced by the presence of a senior staff officer of the supporting commanders at the coordinating commander's operations center. Additional enhancement occurs when the coordinating commander fully understands the peculiar limitations and capabilities of the supporting commander's forces.⁷

⁶But see Momyer, 1978, pp. 90-99, for an articulate critique of coordination control and route package concepts.

⁷During the Korean war General Partridge was acutely aware of the Marines' special task force structure, their concerns and problems. As a result, he was able to effectively use the totality of assigned resources without the degree of acrimony that before and since has often accompanied joint air operations. Futrell, 1981, pp. 213, 342. For a partially dissenting Marine view, see Meid and Yingling, 1972, pp. 492, 514 (fn).

The Interfaces Between Land-Based Air Forces of Different Services

Unfortunately the history of this subject is a dismal one. Each service has been on both sides of this issue, its position in any given instance determined by who was the junior partner in the operations waged by land-based air forces. On Midway in 1942 the Navy and Marine air contingents under the command of Captain Simard, the Naval Air Station Commanding Officer, were clearly in control; Air Force heavy bomber units were the junior partner regardless of the bizarre difference in seniorities of their commanders. The urgency of the mission of the forces was such that it masked the simmering frustration of Air Force officers who quarreled with the quaint notion (in their view) that an island garrison commander should be in control of the air units on his island. This frustration was to boil over subsequently in the arrangements made for security in the South Pacific in the late winter and early spring of 1942.⁸ The Air Force view was that the air assets in a theater should be under a theater air component commander.

In the Solomons campaign that opened the following summer, the issue of unity of command at the point of attack was established by the Navy and the Marines and accepted by the engaged Air Force units. But further from the scene of battle, Air Force and Army staffs labored mightily to regain control of Air Force units. The Navy and Marines were used to working together and knew each other professionally and personally. There were no difficulties in subordinating units of each to the control of an officer of the other.

Whatever the shortcomings of the specific arrangements in the Solomons as described in Sec. IV and the violence they may have done to doctrine, it is clear that they worked: They were flexible, rapidly adapted to a changing situation, and appeared to exploit the unique capabilities of each service's assets. In many ways the Solomons campaign might serve as a model for future joint operations. Unfortunately, absent urgency in a peacetime planning environment, one cannot be optimistic that the model will be employed.

In Korea the problem of the interface between land-based air forces was resolved in a reasonably satisfactory manner, except in the case of geographically separated operations in the same theater. In Korea both Marines and Air Force leaders made concessions: Marine units were effectively put under the control of Fifth Air Force, but Air Force commanders were very sensitive to unique Marine capabilities and requirements and Marine units were tasked accordingly after close coordination at several levels of command.

In Vietnam the interface problem between land-based air forces was worse on two counts:

- A separate Marine enclave (I Corps) was set up in the northern part of South Vietnam and supported by the assets of a full Marine Air Wing (plus) in-country.
- The Army (and Marine) forces blanketed the country with their numerous helicopters and light aircraft.

Both of these facts caused the Air Force doctrinal as well as real tactical air control problems. The result was a continuing campaign waged by Air Force echelons to gain control over Army and Marine air operations. The Air Force premise was that the high degree of aircraft density and probability of mutual interference detracted from combat effectiveness and efficiency. There were ample instances to support this view. The Air Force interface problem with Army and Marine helicopters was never satisfactorily resolved. But after the Tet Offen-

⁸Craven and Cate, 1950, pp. 13-21.

sive in 1968, the Air Force gained a degree of control of Marine air operations in I Corps commensurate with that exercised during the Korean war 15 years earlier.⁹

The following lessons can be learned about unity of command from our experience in conducting combat operations with multicomponent land-based air forces in three wars:

- Where forces from different components operate in the same air space at the same time, there must be a single commander to sort things out. That commander should usually be the air component commander of the CINC, commander of a subunified command, or the commander of a JTF.
- The single air commander may find it prudent to set up regionally oriented subordinate commanders who will work closely with the various supported ground commanders.
- The crucial interface is posed when the single air commander elects or is required to establish *both regional and functional subordinate air commanders* who must interact with one another as well as the ground commanders they support.

The last “lesson” raises the important questions of mission priorities and flexibility. A regional subordinate air commander (e.g., 1st Marine Air Wing in Vietnam’s I Corps) will find himself dealing with the theater air component commander, other regional air commanders, functional subordinate air commanders, and the ground (or possibly naval) commander he is supporting. The historical evidence of three wars suggests the priorities.

The first priority should be to respond to the needs of the supported commander if engaged, while informing the air component commander and other involved commanders. This was the mode demonstrated so effectively during the Solomons campaign and again in the Korean campaign during the tense summer of 1950 while the UN Expeditionary Force was penned up in the Pusan pocket.¹⁰ The second priority should be to respond to the air component commander. These priorities would be reversed if the supported commander is not engaged. The third priority is to respond to the needs of any functional subordinate commanders (e.g., logistics, recce) who may also have a mission to assist the supported commander.¹¹

Setting up Separate or “Competing” In-Theater Commands

This issue arises when the theater commander or other authority sets up an independent tactical air force in the theater and that independent air force is not under the control of the air component commander. This issue did not arise during the Midway battle because Admiral Nimitz served as both operational and strategic commander—in effect serving as both his naval and air component commanders.

In the Solomons campaign this issue could have come up if COMAIRSOPAC and the Commanding General of the 1st Marine Division on Guadalcanal had interpreted their functions differently. Fortunately, COMAIRSOPAC saw his mission as including the *support of the*

⁹Schlight, 1988, pp. 286–287.

¹⁰It was also provided for in 7 March 1968 USCINCPAC directive giving the Air Force “mission direction” over Marine air forces except when the Marines needed “immediate, emergency strikes without going through the Seventh Air Force.” Schlight, 1988, p. 286.

¹¹In a somewhat different context Hallion, 1990, recommends mission priorities for USAF tactical forces as follows: (1) air superiority, (2) battlefield air interdiction, (3) deep strike or interdiction, (4) close air support. But he acknowledges (p. 24) that if close air support is needed in desperate circumstances, it should be provided.

*1st Marine division, not controlling its attached air assets of all services.*¹² This flexibility in devolution of roles and control was further used by COMAIRSOLS when he set up subordinate air commands to the north of Guadalcanal as U.S. forces progressed up the Solomons chain. In those instances COMAIRSOLS saw his mission as one of supporting a subordinate with specified responsibilities in the assigned combat area.¹³

Korea was another story. For reasons that are not clear, General MacArthur on two occasions carved out an independent (from the Eighth Army and Fifth Air Force) role for the Xth Corps and its associated (largely Marine) air elements. These arrangements provoked major objections from senior Air Force Commanders who believed it violated previous agreements with FEAF. In Air Force eyes this split of authority violated their doctrine and their view that unity is better than decentralization where command is concerned. General MacArthur resolved the issue by stating that such split arrangements were temporary and would be ended when the Xth Corps units rejoined the Eighth Army. In spite of the furor over these episodes, it is not clear that harm was done or advantage gained by the arrangements used. They do suggest that great care should be exercised before splitting off free-standing air-ground packages of forces and placing them under independent command not answerable to the component commanders.¹⁴

In Vietnam the issue of unity of command of geographically separated air forces was part of the issue of coordinating the operations of land-based air forces in-theater, specifically the Marine air operations in I Corps described above.

The Fundamental Lesson on Unity of Command

Perhaps the most fundamental lesson of all in assessing unity of command is that *no service component or joint commander willingly surrenders operational control of his air forces to another commander*. Each service has amply demonstrated this characteristic over the years. A corollary to this lesson is that *joint and service component commanders try to gain control of all air assets in their area of operations*. This lesson and its corollary set the stage for a largely unresolved conflict. "Jointness" by itself is not the answer. Nominally joint commanders have demonstrated their well-meaning, but nonetheless obvious service-based, parochialism: Admiral Nimitz's insistence on a naval chain of command and willingness to accept a weak Air Force component at Midway and during the Solomons campaign; Generals MacArthur and Westmoreland in their near-exclusive focus on the *ground operations* of their campaigns and failure to establish truly joint staffs to serve them in air operations matters; Generals McConnell and Nazzaro in their refusal to place SAC units under the operational control of the regional and subregional unified commanders or their air components. Throughout the Vietnam war, successive USCINCPACs (all naval officers) demonstrated a solicitousness for Navy

¹²This view is different from the Air Force view in Korea and Vietnam holding that to properly support an engaged commander there must be unity of *theater* air command. Generals Vandegrift and Geiger on Guadalcanal in 1942 would have strongly disagreed—pushing for unity of command *in the objective area*.

¹³Both Air Force and Marine practice involves setting up an advanced headquarters in the combat area ("ADVON" in USAF terminology) while retaining a largely support headquarters further to the rear. The Air Force used this concept in the island hopping campaign in the South Pacific during World War II. See Craven and Cate, 1950, pp. 99–100. During the Guadalcanal operations of 1942–1943, the Marines kept their Air Wing headquarters back in the New Hebrides, but moved the command function forward.

¹⁴In today's parlance, the Xth Corps and its assigned air units were a Joint Task Force, an organizational artifact that has served the United States well during the past two decades. The issue the Air Force commanders of the Korean war era raised still has relevance today: What should be the command relationships between a JTF Commander deployed in theater and the service-oriented component commanders who supply his forces and who may have overlapping operational responsibilities? We have seen little evidence that the services, the JCS, and the CINCs have answered this question. The current operations in the Middle East do not provide an all-purpose answer to the question because the CINC has moved forward to be the operational commander replacing CJTFME.

and Marine command and control concerns that was not extended to Air Force concerns. But it should be noted that the Air Force was not of one mind itself on those matters.

In surveying the sweep of the four campaigns, we see that the color of one's suit and one's position in the chain of command define one's position on control of air forces as much as or more than the combat realities involved. This pessimistic assessment leads one to ask: Were there *any* cases where these parochial concerns were put aside? Our answer is a qualified yes. Examples include:

1. The unstinting Air Force support provided at Midway, with no concern over who was in command and the ranks of the officers concerned.
2. The establishment and operation of Air Cactus and AIRSOLS during the Solomons campaign. Each service sacrificed doctrine and strong beliefs to get the job done.
3. The tri-service air effort covering the withdrawal of the Xth Corps from northeastern Korea in the fall of 1950 and early 1951. Again doctrinal concerns were put aside.

What is the common element in these few high points? The possibility of major defeat at the hands of the enemy. *To gain this degree of urgency and willingness to sacrifice in peacetime planning and organization will require the invocation of an equivalent threat to the continuing lives of the services themselves.*

JOINT PLANNING

Doctrine

The doctrinal differences among the services were briefly described in Sec. II. During World War II and the Korean conflict each service had its own doctrine, but such a thing as joint *doctrine* hardly existed. The Army and the Air Force (as the old Army Air Force) in 1946 developed a field manual (FM 31-35) that attempted to codify the lessons of air and ground coordination learned during World War II. This was followed by *Joint Training Directive for Air-Ground Operations* prepared jointly by the Army and Air Force and by coincidence published during the tense days of the summer of 1950. There was no comparable set of doctrinal manuals that addressed joint Army-Air Force-Navy-Marine operations. Other serious efforts at developing joint air doctrine were made after the Korean war but foundered on the ground of service special interests.¹⁵ Even where the most progress was made—in Air Force and Army ground force coordination—the advent of major Army helicopter forces and that service's desire for its own airborne direct fire support soon stymied further progress. These problems were carried into the Vietnam war and were only slowly addressed and partially resolved.

Doctrinal issues between Navy and Air Force commanders in Vietnam were finessed through a barely satisfactory combination of a reversion to Korean war modes of operations (the equivalent of a JOC with full Navy representation) and the absence of any credible threat to U.S. naval forces. The result was an uneasy but nonetheless effective partnership wherein each side's commanders recognized the special capabilities and contributions of the other service. The hard edge of doctrinal clash was reserved for the Air Force interfaces with COMUSMACV, Army field commanders who controlled their own helicopters, and the Marines in I Corps.

¹⁵Field, 1962, p. 394.

What lessons might be drawn from the experience of these four campaigns?

- There is a need for a joint tactical air doctrine that provides guidelines for decisions on command arrangement and subordination, support, priority, coordination, and a variety of other C³ issues.¹⁶
- The difficulties of crafting such a document in peacetime are probably insurmountable. Consequently, it is incumbent on each commander who might potentially be involved in contingency operations to think through the force employment and related C³ alternatives in advance so as to be positioned to quickly make the relevant decisions when needed at the onset of combat or contingency operations.
- In spite of the advantages that might follow from the adoption of a joint tactical air doctrine, doctrine often does not fit the situation that faces commanders (both the air component commander and his theater commander).
- Given the impediments to achieving a useful joint doctrine, suitably packaged and disseminated historical studies (such as attempted here, and more fully developed by the various war colleges or major service commands) may be a useful substitute, particularly in cases where doctrinal agreement is achieved at the expense of clarity and directness.¹⁷

Joint Force Employment Planning

The most common response to the pressures for joint force employment planning has been to avoid the problem entirely by what we would call “subcontracting” out geographic regions or time-sharing a common region. Another and perhaps more direct response has been what might be called functional or mission rationalization—that is, giving one service’s air units a specific role within the total air mission (typically giving the Marines the close air support mission, the Air Force the tanking mission, and the Navy the maritime surveillance mission). Much less frequent has been true integration within a specific attack operation.

At Midway the only joint force employment planning paradigm was to launch the forces of all services at (or before) first light on 4 June and go out and strike Japanese naval forces with priority on the carriers. As we have seen, there was no possibility of coordinating the land-based air attacks with the attacks by the carrier air groups. The result was a piecemeal commitment of the land-based air forces in an extended engagement with Nagumo’s carrier air wings that led to his fatal decision to strike Midway again.

In the Solomons there was considerably more integration of effort in attack planning, planning that occasionally was extended to include coordinated attacks by land- and sea-based air forces. There was a single air component commander (forward) in the form of COMAIRCACTUS and later COMAIRSOLS to do the planning and coordination.

In Korea the concept gradually emerged that was accepted, even fostered, by the Air Force and enthusiastically supported by the Navy, involving the designation of “route packages,” or the assignment of specific enemy areas to designated service components, or even the elements of a given component. This system was workable at the basic level of avoiding mutual interference, but it incurred penalties when the forces of the responsible service did not

¹⁶Valliere, pp. 38–39, describes the existing joint doctrine and points out the differences in the Air Force and Marine Corps. This doctrine, set out in JCS Publication 3-01.1, clearly benefits from the Vietnam experience.

¹⁷We found General Mommyer’s (1978) assessment to be one of the most useful documents we reviewed. Although Mommyer has his own position, he is meticulously fair in presenting opposing views, and there is no recrimination in his assessments.

have all the qualitative capabilities needed to effectively hit targets in a given "route package" or when massive efforts were required that exceeded its quantitative capabilities. In effect, the system of dividing up the target area and assigning responsibilities by service component was a "workaround" of unresolved doctrinal and C³ problems. Nevertheless, there were some superb demonstrations in Korea (some were identified in Sec. IV) of what could be achieved by simultaneous coordinated multiservice attacks. Because such integration was "hand tooled," it did not become the norm.

In Vietnam this practice of geographic demarcation of the target set was continued with similar successes and penalties. There was a brief previous experiment with time-sharing of the target set between Navy and Air Force units but its drawbacks soon became obvious and it was abandoned.¹⁸ There was some greater justification for the route package system in Vietnam than there was in Korea. Since the USAF tactical fighters were based in Thailand it made sense to give the target areas in the western part of North Vietnam to them, while giving the eastern target areas near the coast to the carrier forces of the Seventh Fleet.¹⁹

Another aspect of the planning of joint air operations warrants mention. As early as Midway, there were incentives for mission or functional rationalization. That is, it made eminent good sense to give missions and tasks to those forces (regardless of service and doctrine) that by training, availability, hardware configuration, or force of circumstance were best able to perform them. In some cases the rationale for such mission assignment was no better than the fact there was nobody else left to do the job at hand.

Thus, at Midway and during the Solomons campaign we see Air Force long-range bombers pressed into service as recce and scouting aircraft, a mission they performed superbly in spite of grumbling by senior Air Force commanders. As was mentioned in Sec. IV, low performance Air Force fighters were pressed into service in the close air support of Marine ground forces while Marine fighters who were well trained for the close air support role were diverted to beachhead air defense. Marine dive bombers were similarly diverted to the attack of Japanese shipping. The examples of this flexibility during the Solomons campaign are too numerous to mention. There were corresponding examples in both the Korean and Vietnam wars. With all this combat experience in demonstrating the need for flexibility, it is remarkable that more attention is not accorded in so structuring peacetime training and exercises of the services.

We suggest the following lessons from these four campaigns for joint force employment planning.

- Time-sharing a target set among service air forces is unsatisfactory except in the rarest instances (a one-time attack).²⁰
- Apportioning a target set to service air forces by geographic bounds provides simplicity of control at the expense (in most cases) of effective employment of the totality of available air forces. It is the luxury of a nation with plentiful air force assets.
- Geographic allocation of targets may be the only feasible solution to the tactical air control problem if peacetime training, exercises, and doctrinal development do not foster a true integrated joint air capability.
- The differences in doctrine, hardware, and training emphasis among the service air components in peacetime are real and in most cases necessary. The trick is for the

¹⁸Marolda and Pryce, 1984, p. 32.

¹⁹Marolda and Pryce, 1984, p. 33.

²⁰Time-sharing of target groups by different tactical air forces was tried in Korea and Vietnam. The inflexibility of the arrangement when interfaced with variable weather, aircraft availability, enemy force disposition, and entry and egress routes makes it impracticable.

joint operational planner to both exploit and work around those differences by imaginative employment concepts, while putting service doctrines aside when circumstances warrant.

- In many ways doctrine is akin in its purpose to strategy: It is important in getting one to the battlefield adequately equipped and trained in the same way that strategy involves getting the right forces to the right battlefield at the right time. But operational planning is the close relation of tactics: It involves what you do after you get there. At that point, unless carefully applied, doctrine can get in the way of the priceless ingredients of success: imagination and flexibility.

In many ways the most successful air commanders have been those who clearly saw the limitations of doctrine and narrowly defined service missions. General Geiger at Guadalcanal in 1942 and General Partridge in Korea during the summer of 1950 are prime examples of vigorous air commanders who put doctrine in its proper place once the battle was joined.

Exercises

Hardware, people, doctrine, training, and plans are tested in exercises. Before World War II joint exercises were that rarity of rarities. When they did occur, more often than not they pitted the assets of one service against those of another. Thus naval forces would “attack” Panama or Hawaii defended by the air and ground forces of the Army. In the weeks just before 7 December 1941, Army Air Force aircraft supplemented Navy air searches. But these were not exercises; they were the first halting steps toward future joint operations.

The years leading up to the Korean war saw few joint exercises in the Pacific. There were some limited efforts to conduct USAF and Army joint training, but they clearly did not receive adequate support from service component command echelons or the theater commander.²¹ The legacy of bitterness left by the various interservice controversies of the 1947–1949 period was not a good setting for the conduct of joint exercises.

With the maturation of the current joint command structure under the commanders of the unified commands after the Korean War, more joint exercises were conducted. Often the catalyst was an exercise with the forces of a Pacific ally. Moreover, the services gradually came to see that they had important gaps in their warfighting capabilities that could be remedied only by working together. But the increasing number of exercises were either small scale and directed toward such things as equipment familiarization, interoperability, and providing target services to another component, or they fostered bad habits such as getting joint commanders into the component commanders’ business.²² Nevertheless, it was a start toward meeting a national requirement that would be illuminated by the gradual U.S. involvement in the Vietnam conflict.

In the post-Vietnam environment, joint exercises—some of them very large—have become a fact of life in the Pacific. *Team Spirit*, *Cobra Gold*, PACEXs, and RimPac exercises have had major multiservice participation. In spite of the progress made in truly integrated planning, many of the old problems remain: the focus on mission rationalization and on one service supporting another, rather than on true force employment integration; the concentration of force employment planning in service-specific rather than joint commands; and the rather detached

²¹Futrell, 1981, pp. 60–61.

²²Momyer, 1978, pp. 65–66.

view that theater commanders sometimes take of joint planning by subordinate commanders and of related exercises conducted in the theater.²³

JOINT OPERATIONS

As a general rule, joint operations have had to deal with the results of the many imperfections in joint planning. In most cases it is difficult to tell where the planning may have been good and the execution poor. It is easy to criticize Midway as a well-planned operation that was almost a disaster because of less than optimal execution decisions. Spruance's critical decision to launch his air wings to strike the Japanese carrier force on the morning of 4 June was not a joint force employment decision. He knew that Simard was tasked to launch early to save his force and to hit the Japanese carriers, but Spruance's decision was one he would have made with or without land-based air support.

Simard's decision was dictated by his orders from Nimitz and by the common sense rationale of "using it or losing it." Once his forces were airborne, it is difficult to criticize the untrained airmen who were entering their first combat against the veteran Japanese "Kido Butai" (the fast carrier task force). They attacked piecemeal because that was what the strike plan set them up to do.

In the Solomons campaign the joint operational decisions were of a generally high order, reflecting the workable command arrangements and the capability of the engaged staffs to plan with speed and flexibility. With few exceptions the air warriors in the Solomons flew to the sound of the guns. As was indicated in Sec. IV, many of the operational decisions that were made were near flawless. Moreover, the tactical commanders learned quickly from their mistakes—much more quickly than their Japanese opponents—and modified their force employment decisions accordingly.

In Korea, the operational problems were with few exceptions the children of the defects in the planning parent. Poor communications capacity, procedures, and doctrine at all levels nearly destroyed the capability for joint air operations early in the conflict. Both FEAF and Commander Task Force 77 too often succumbed to the temptation of conducting the doctrinally comfortable air campaign that attacked the enemy's communications, logistics, and war-making potential at the expense of providing support to beleaguered ground troops with their backs to the wall.²⁴ In the Air Force case this temptation was based on doctrinal rationale. In the Navy case it was based on frustration in attempting to fit its operations into Air Force procedures. The rapid movements of Task Force 77 from one target set to another in the summer of 1950 was as much a product of that frustration as it was of mission priorities.²⁵

What lessons are worth distilling from the experience of these four campaigns?

- Decisions involving the use of joint forces are always more complex than those involving a single service's forces. The joint commander's objective should be to minimize

²³In the early 1980s one of the authors had occasion to review some of the air employment plans for an important target set in the Pacific. A striking characteristic of these plans was that each service component appeared to plan discharging the task on its own with no help from sister components. Naturally each component believed that it should lead any joint effort. There are healthy signs of progress in overcoming these shortcomings as evidenced by the close coordination of the Commander Seventh Fleet and Commander Fifth Air Force (in Japan) in the development of plans and the conduct of exercises.

²⁴This case can be overstated. Navy and Air Force commands did support the ground forces effectively when most needed. Our point here is that operational frustrations and doctrinal pressures were a constant distraction and cause of instability in planning emphasis and force application.

²⁵For a description of these peregrinations and frustrations see Field, 1962, pp. 138–144, 166.

the complexity consistent with maximizing the product of the joint force. He should not try to optimize the contribution of any one service component unless that component will bear nearly the entire operational burden of a given task.

- Communications are the known Achilles' heel of any military operation, but particularly of a joint air operation. No joint commander should ever be satisfied with his communications plan or the training of his forces in using it.
- Service doctrine often does not fit the operational circumstances and can be a distraction in arriving at sound operational decisions. Sometimes doctrine might serve better as a standard against which to measure decisions than as the stimulus of decisions.²⁶
- Operational decisions on the employment of tactical air forces generally should not be made by theater commanders (or even component commanders in many cases). Midway was the exception, not the rule.
- Some sort of joint air operations center is needed and it should be staffed with the representatives of all involved services.
- Efficiency of tactical air force application is often sacrificed for expediency, particularly when U.S. ground forces are threatened. The prudent joint commander thinks ahead to how he will decide and what factors will influence his decision in unforeseen contingencies.

TRAINING AND HARDWARE²⁷

Understandably, both training and hardware tend to get optimized for service-specific missions and tasks, particularly for those that have the most appeal to the parent service. Sinking the enemy's ships has more doctrinal and roles and missions appeal to the Navy than the demands of close air support. Marines prefer to fly support for ground Marines over deep air interdiction. Air Force crews prefer the counter-air mission to conducting close air support and battle area interdiction. If the history of these four joint tactical air campaigns tells us anything, it is that the combat operations of service forces are likely to differ in major particulars from their peacetime service-specific training.

The training and hardware incompatibility problems among joint tactical air components experienced at Midway and in the Solomons were understandable given the short history of joint operations. Just as understandable is the Korean experience. The F-80s of USAF fighter interceptor squadrons based in Japan in July of 1950 found themselves in the principal role of providing close support of ground troops. Navy pilots on the *Valley Forge* had just finished training in providing close air support for Marines at Camp Pendleton before their deployment to the Pacific in 1950. But as luck would have it, they would be used to provide more air support to Army ground troops under a much different control system.

In one sense the configuration of a service's equipment provides some indicator of its preparedness for joint operations. Communications equipment and specialized units tailored for joint support come to mind. But in a larger sense the aircraft in the service's inventory tell their own story. Are they suitable for missions that require interface with the air and surface assets of the other services?

²⁶Some colleagues have reminded us that doctrine is a distillation of guidelines based on historical experience. It must be applied with judgment, not used as a prescription. Our point is that as useful as doctrine is in most circumstances, it can be and is misused.

²⁷The reader is asked to bear in mind we base the judgments that follow on the experience in the four campaigns described. The *initial* evidence from operations in the Persian Gulf, 1990-1991, present some contrary evidence we hope to evaluate in a future analysis.

In a sober assessment of the services' training and hardware readiness for the war that came (not necessarily the one being deterred), one is forced to the conclusion that the Air Force has been the least well prepared of the services in training and hardware. Whether from national priorities or service preference, the Air Force has tended to be readier for conflict at the high end of the spectrum than where the wars were in fact fought. USAF doctrine has emphasized preparation for conducting an air superiority campaign in the European theater as a part of a larger conflict with the Soviet Union, at the expense of preparing for other, perhaps more likely, contingencies. The Navy and Marine Corps were far from perfect in this respect, but their failures were more the result of having old equipment than of having wrong equipment, more the result of insufficient training than of inappropriate training. Still to its credit, the Air Force has tended to be more ready doctrinally for joint operations insofar as unity of command is concerned, albeit on its own terms, than the other air services.

In the campaigns we have described, Air Force units have not only had to be reequipped (e.g., B-25s for B-17s, and P-38s for P-39s in the Solomons, F-86s for F-80s in Korea, F-4s for F-105s and F-100s in Vietnam) but largely retrained as well. In some cases the unsuitability of Air Force equipment has required the reuse of discarded or obsolescent equipment (A-24s in the Solomons, F-51s in Korea, A-1s in Vietnam) to perform a mission that had been neglected. This situation has flowed from an emphasis on deterrence at the high end of the spectrum—that is, SAC bombers and missiles to provide the framework within which lesser conflicts could be fought. But some of it has been the result of other Air Force priorities that have emphasized air to air combat over most other missions, offensive counterair over interdiction, and interdiction over closer forms of support to ground forces. *The most prized capabilities of any service are often those least suited to joint operations.*

The Navy conducted the joint campaigns we have described with most of the same types of equipment it had going into them. In the Solomons the F4U Corsair gradually replaced the F4F Wildcat. In Korea there were few changes except for later models of the A-1 and F9F being used. In Vietnam the A-7 gradually (but not completely) replaced the A-4s. While the Navy's training prepared it for Midway and the Solomons, in Korea it was not prepared for the continuous interdiction and close support campaign that developed.²⁸ Major changes were needed in logistic support, communications capability, launch cycling, and command and control procedures. But the Navy profited by that experience, and when Vietnam came it was well equipped and trained for the joint operations that developed.

The training and hardware lessons learned in these campaigns are the following:

- Cross mission training of tactical air forces should be encouraged, not only for its possible combat payoff but also for the flexibility of mind that it encourages among air crews, staffs, and commanders.
- Missions that require the *support* of the commanders of other services tend to get short shrift in hardware modernization and training time. The only commands with a vested interest in preventing this are the CINCs and those commands with major operational (rather than logistics and support) wartime responsibilities.²⁹
- Creating effective joint operational staffs may be more difficult than creating effective joint forces. The Solomons case demonstrates a near optimal situation.

²⁸Field, 1962, pp. 110–111.

²⁹The desire to strengthen the CINCs' role in this regard was one of the driving forces behind the Goldwater-Nichols Department of Defense Reorganization Act of 1986. See 10 USC 164.

- Investment in good communications equipment and realistic joint staff exercises may be the best utilization of scarce resources with the objective of improving joint air operations.

SOME CLOSING THOUGHTS

This report has examined the achievement of the principle of unity of effort from a narrow focus of the command and control of U.S. joint tactical air operations in four campaigns during the period from 1942 to 1968. Its intent was to extract from that examination some lessons for future joint air operations. Some readers will observe that the final events described in this report took place more than 20 years ago. Personal experience may tell them that much progress has been made since, perhaps enough progress to render our conclusions moot. Indeed, there have been several successful joint air operations in the interim. But a close look at those operations, a look we hope to document in a future study, indicates that the operations cited were essentially single air service operations, of short duration and “hand-tooled,” or involving one service clearly providing support to another.³⁰

This report has distinguished between *unity of effort* and *unity of command*. That distinction has manifested itself in the expressions of individual service doctrines, their implementation in joint operations, and, ultimately, each of the services’ views of war. We believe that unity of command is one of several necessary steps to achieve unity of effort, which is perceived as the “higher order” principle encompassing “solidarity of purpose, effort, and command.” Although many in each of the services have disagreed on the interpretation and implementation of unity of command, *we believe the debate should be structured around the accomplishment of unity of effort*. Given the evolving international security environment and the effect of domestic budgetary constraints on military operations, the imperative for operational coordination by all the services in the pursuit of common strategic objectives is becoming even more apparent. Joint doctrine can provide the foundation on which this operational coordination can take place. Adjudicating among objectives, establishing their timing for accomplishment, and achieving them by various approaches represent the heart of joint doctrine. Moreover, that process should reflect one of doctrine’s fundamental characteristics: *flexibility of judgment in application*.

We believe there is much that is cosmetic in what passes for joint air operations in peacetime. A successful cross-service aerial refueling or air control exercise, a thorough workout of communications links and procedures, an occasional field exercise of short duration and narrow focus are all confidence builders. But they do not truly resolve the core issues of service doctrine versus joint doctrine, and unity of command versus service component retention of control over its air forces. More important, such exercises do not cover true “employment integration”—unity of effort—where the forces of different services are employed against a single target set in a defined geographic area at the same time in an attack commanded by the officer of one service.

The operations that are just beginning in the Persian Gulf (as this is written in December 1990) will tell us a great deal about how successful we have been in realizing the joint tactical air force employment ideal. We will see whether the wisdom of our commanders is up to the bravery of our flight crews and the fierce pride each of the services exhibits in developing its unique combat capabilities.

³⁰These words were written during the buildup phase of Operation *Desert Shield*.

Appendix

THE DEVELOPMENT OF COMMAND RELATIONSHIPS IN SOUTHEAST ASIA, 1962–1966

The United States Military Assistance Command, Vietnam (USMACV), commanded by General Paul D. Harkins, USA, was established on 8 February 1962 as a subunified command under the Commander in Chief, Pacific (CINCPAC). Succeeding General Harkins in June 1964, General William C. Westmoreland reported to CINCPAC, who at that time was Admiral Harry D. Felt. On 1 July 1964, Admiral Felt was succeeded by Admiral U. S. Grant Sharp, Jr. General Westmoreland and Admiral Sharp were to play key roles in the debates over the utilization of airpower during the period. The overall U.S. chain of command (as of December 1966) is shown in Fig. A.1.

The role and structure of MACV—whether it should be a unified or specified command, and whether the Army should be the dominant component—provided the focus for debate in late 1964 to early 1965. Air Force planners were concerned with allocation of adequate air resources for Southeast Asia while maintaining sufficient capabilities to deal with potential contingencies, such as a military threat from the PRC.¹ This Air Force concern underlay many of the arguments (supported by the Army) for the evolution of MACV from a subunified command under CINCPAC to a theater unified command reporting to the Joint Chiefs of Staff, much as had been done in Korea. But the Navy opposed a separate theater command, arguing that CINCPAC should have control over all forces in the Pacific in order not to fragment the U.S. response to possible threats outside the Southeast Asian theater. Although the issue was decided in favor of keeping MACV within PACOM, debate continued for the next few years over whether MACV should become a separate theater unified command.

Central to this issue was the role of the Air Force within MACV and in the conduct of the war. General Curtis E. LeMay, Chief of Staff of the Air Force, pushed for the appointment of an Air Force officer as Deputy Commander of MACV. Such an appointment would provide the command element in addition to advice and coordination to COMUSMACV. However, arguing that the war was primarily a ground war, requiring air forces in a *supporting* role rather than being a primary consideration, COMUSMACV wanted the appointment of another Army officer as Deputy Commander of MACV. General Harkins and later General Westmoreland proposed that an airman be appointed as a Deputy for Air, and with JCS approval, the position was established on 25 June 1965. Nevertheless, the Deputy Commander MACV remained an Army position.

Support for the air interdiction campaign was fragmented among several CINCPAC component commands² (see Fig. A.2). Against North Vietnam and Laos, the air war was conducted by CINCPAC's two component commanders, CINCPACAF and CINCPACFLT, and, in South Vietnam, by forces assigned to MACV but supported by PACAF and PACFLT forces. The overall effort would be controlled by Admiral Sharp, who decided which missions would be

¹This view exactly paralleled Navy concerns about its out-of-area commitments during the Korean war and its reluctance to have its carrier forces subordinated to FEAF. Momyer, 1978, pp. 70–73. The common elements in both views are the existence of other possible opponents *and* reluctance to place the assets of one service under the control of a commander of another.

²Momyer, 1978, pp. 78–83.

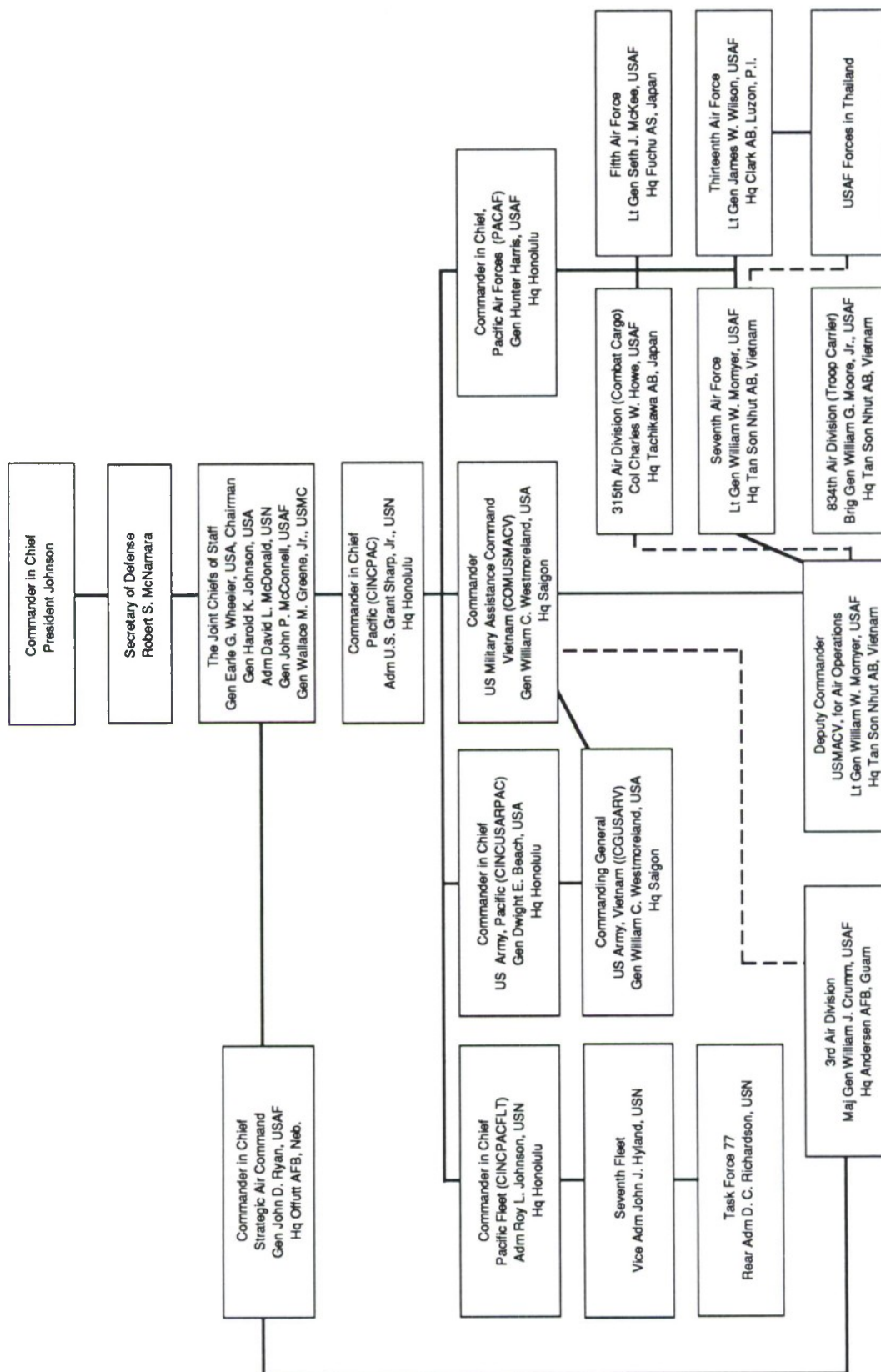


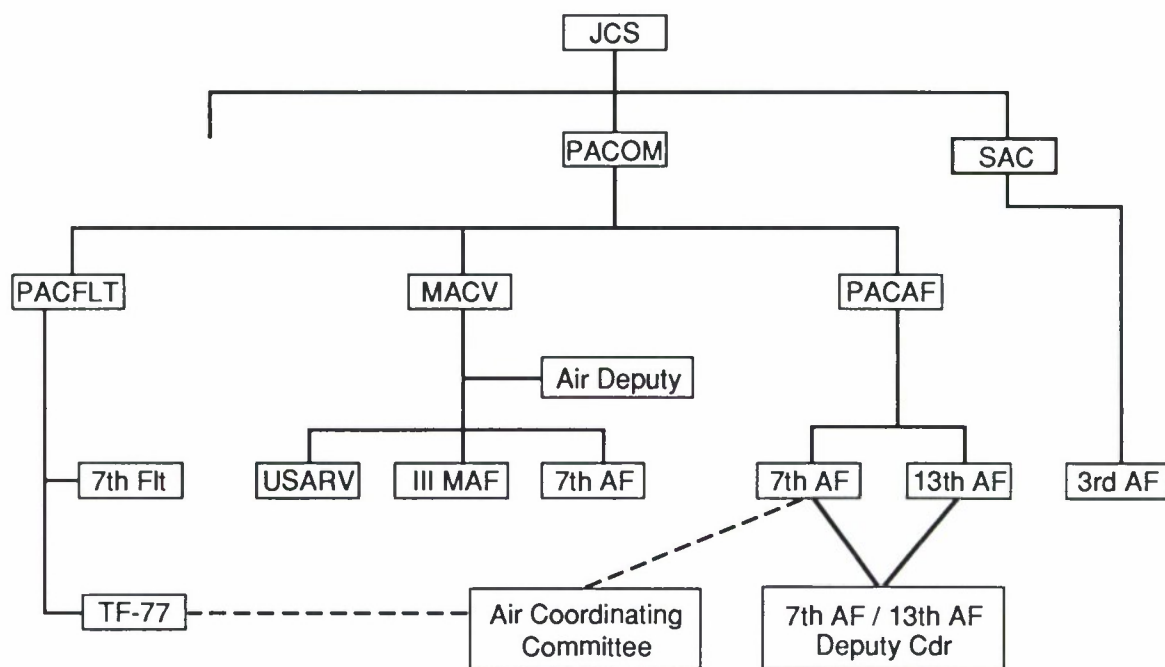
Fig. A.1 -The chain of command for the war in Vietnam (effective December 15, 1966)

SOURCE: *Air Force Magazine*, January 1967, p.27.

assigned to which component command. Those missions were then assigned to the subordinate commands: PACAF directed the Thirteenth Air Force, whose forces were largely based in Thailand, to carry out the attacks; the Thirteenth AF then directed the 2d Air Division to execute those attacks.³

To deal with Thai political sensitivities about the role and control of American air forces in Thailand, coupled with Sharp's adamant refusal to centralize the air effort at a level lower than himself, USAF Chief of Staff General John P. McConnell⁴ appointed an airman as deputy commander for both 2d Air Division and Thirteenth Air Force in November 1965. But in reality the Commander of 2d Air Division continued to control the operational assignment of air forces from Saigon. Later, as the 2d Air Division grew to the size of a numbered air force but without the requisite staff and support, it was deactivated (on 14 March 1966) and replaced by the Seventh Air Force. The Deputy Commander, 2d Air Division/Thirteenth Air Force became Deputy Commander, Seventh Air Force/Thirteenth Air Force.⁵

Control of naval aviation was exercised by PACFLT, which relayed the mission assignments to Seventh Fleet, which then passed the assignments to Task Force 77 (TF 77), located at "Yankee Station" in the Gulf of Tonkin and "Dixie Station" off Cam Ranh Bay. The



SOURCE: Momyer, 1978, p.84.

Fig. A.2—Air command responsibilities in Southeast Asia, 1966–1972

³Momyer, 1978, p. 78.

⁴McConnell had replaced General LeMay on 1 February 1965.

⁵Momyer, 1978, p. 83.

stationing of carriers in these two positions was necessary in the absence of a sufficient number of land bases for close air support of MACV ground forces early in the conflict.

These service-specific arrangements caused problems within the service components as well:

Instead of providing the Seventh Air Force with complete control over the 2d Air Division assets, PACAF gave the Seventh Air Force "operational" direction over the fighter wings, while the 13th Air Force retained "administrative" control. The ultimate result of this bizarre arrangement was the creation of the 7/13th Air Force in Thailand, which then assumed *administrative* control of the fighters! "Command arrangements were a mess," a Seventh Air Force staff officer recalled. "There was only one person that you could say was in command, and that was the President."⁶

⁶Clodfelter, 1989, pp. 128-129.

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